PHARMACEUTICAL ABSTRACTS

EDITOR: A. G. DUMEZ, 32 S. Greene Street, Baltimore, Maryland.

CONTENTS

PHARMACY

GALENICAL (*Continued*)

Strophanthus Dichotomus DC.—Notes on. The presence of a powerful cardiac poison in *S. dichotomus* has been confirmed. The sulfuric acid test followed by (*a*) the phenol and hydrochloric acid test and/or (*b*) the resorcinol and hydrochloric acid test enable one to distinguish between a tincture prepared from the seeds of *S. dichotomus* and tinctures prepared from seven varieties of strophanthus examined.—A. H. MILLARD. *Pharm. J.*, 137 (1936), 147. (W. B. B.)

Vegetable Drugs—Extraction of. The author discusses the extraction of vegetable drugs by means of percolation. Five hundred grams of *Hyoscyamus muticus* leaves were extracted with 20% (by volume) alcohol. The percolate was caught in 32 successive lots of 100 cc. each which were evaporated to dryness, the weight and the alkaloidal content of each lot being determined. After the ninth 100 cc. the alkaloidal content could no longer be accurately determined. One kilogram of Belladonna leaf was similarly extracted, the percolate being caught in 250-cc. portions. Analytical results are given. It was observed that the extraction proceeds more gradually and completely than one would expect and that the total extraction and alkaloid extraction run almost parallel. An alkaloidal drug is thus fairly well extracted with from $1^1/_2$ to 2 times its weight of percolate while with drugs having indefinite constituents the (Dutch) pharmacopœial end-point (that 500 mg. of percolate give no weighable residue (2 in 1000)) was not reached in the *Hyoscyamus muticus* experiment with 7 times the weight of the drug.—T. POTJEWIJD. *Pharm. Tijdschrift*, 14 (1936), 61. (E. H. W.)

Vitamins B_1 and B_2—Concentrate of. The following method is given for preparing a concentrate of vitamins B_1 and B_2: Fresh pressed brewers' bottom yeast is partially liquefied by the addition of about 20% of its weight of sodium chloride, and to this mixture an equal volume of 95% ethyl alcohol is added. The suspended solids in this mixture are removed, preferably by means of a filter press; and to the clear alcoholic extract, English Fuller's earth is added in proportion of 5 Kg. for each 100 Kg. of fresh yeast employed. The mixture is stirred continuously for at least half an hour, and the absorbate is separated and washed. The vitamins are extracted from the absorbate by suspending it in water in proportion of 10 liters per Kg. of absorbate, adding sufficient concentrated sodium hydroxide to render the solution about 0.4*N*, agitating the mixture violently for three minutes and removing the absorbate by centrifugation as quickly as possible, and acidifying the clear solution with sulfuric acid to p_H 4.5. A precipitate forms at this point, which is separated and discarded. The aqueous solution is concentrated by vacuum distillation to about $^1/_{10}$ its volume or less. During this distillation a large amount of brown precipitate is formed, representing the greater part of the B_2 of the original extract and a considerable amount of its B_1. This precipitate is immediately separated by centrifugation, and may be washed by stirring with two or three times its volume of water and again centrifuging. The washed precipitate is dried *in vacuo*. The yield of such precipitates, which may be referred to as the crude concentrate, appears to vary with the degree of concentration of the liquid; and since it is difficult to regulate this quantitatively, amounts varying from 100 to 400 Gm. per 100 Kg. of fresh yeast have been obtained. From the results of a series of assays the authors conclude that: (1) The International Standard for B_1 is not wholly free from B_2, though it is only about one-third as active as dried brewers' yeast, weight for weight. (2) Dried brewers' yeast appears to present but little variation in B_2 activity, but may vary by as much as 800% in B_1 potency. (3) Concentrates prepared by the method described herein may have a B_2 potency of from 70 to 175 times, and a B_1 potency of from 60 to 500 times that of dried brewers' yeast. In view of the close association of the thermostable growth factor B_2 and the p. p. factor, the authors think it possible that their concentrates may have an anti-pellagric potency parallel with their B_2 activity as measured by their growth effects on rats.—M. I. SMITH and A. SEIDELL. *U. S. P. H. Reports*, 51 (1936), 685; through *Pharm. J.*, 137 (1936), 148. (W. B. B.)

PHARMACOPŒIAS AND FORMULARIES

British Pharmacopœia—Addendum. The General Medical Council of Great Britain issues, through the Registrar, a memorandum on the inspection of advance copies of the Addendum 1936 to the B. P. 1932. The text of the Memorandum is given.—ANON. *Pharm. J.*, 137 (1936), 321. (W. B. B.)

Swiss Pharmacopœia V—Remarks of a Pharmacist on. The author comments upon the table of drops, the specific gravity correction tables, the boiling point determination, the lack of identification tests for official substances in some preparations, the selection of inconvenient amounts in the various formulas for preparations, some of the requirements for protection from light, the lack of a formula for finding the specific gravity of a finished preparation, the change in the color of some pastilles, compound syrup of figs, compound syrup of creosote, tincture of capsicum, camphorated tincture of opium, and compound ointment of rosemary.—K. SEILER. *Schweiz. Apoth.-Ztg.*, 74 (1936), 402. (M. F. W. D.)

Swiss Pharmacopœia V—Remarks of a Pharmacist on. The Swiss Pharm. V requires solution of aluminum aceto-tartrate to have a specific gravity of 1.258–1.262 and to leave a dry residue of 45%. Usually the dry residue falls below this value even though the specific gravity is correct. The author points out that during the drying some acetic acid volatilizes especially if a temperature of 100° is used. Therefore it is well to use only the specific gravity as a standard. It is impossible to obtain sodium bicarbonate which meets the Swiss Pharm. V requirement not to immediately redden phenolphthalein when the latter is added to a 1% solution. Since only a saturated solution at 0° will not redden phenolphthalein, this test is not good and should be altered or dropped. The directions under the preparation of compound syrup of ipecac should be made more specific. A test for the presence of alkaloids should be included in the monograph.—K. SEILER. *Schweiz. Apoth.-Ztg.*, 74 (1936), 415. (M. F. W. D.)

Swiss Pharmacopœia V—Remarks of a Pharmacist on. The test for the presence of antipyrine in amidopyrine as given in the Swiss Pharm. V is not satisfactory because the proportion of amidopyrine to sodium nitrite is too large and the sulfuric acid too dilute. The original article directs the addition of 2 drops conc. sulfuric acid and 2 drops of 66% solution of sodium nitrite to 0.01 to 0.02 Gm. of amidopyrine in 5 cc. of water. The blue color produced disappears in about one minute and should not be followed by a green which denotes the presence of antipyrine. In samples containing 2% antipyrine a control should be used since the yellow to brown color appearing after the blue, tends to mask the green produced by antipyrine if the latter occurs in small amounts. The Swiss Pharm. V gives the melting point of amidopyrine as 107–109° but no sample showed over 106–107° when carried out by the official method. This is explained by the fact that the pharmacopœia does not correct the temperature for the contraction of the column of mercury above the bath. The author finds that the preparation of infusion of digitalis is very tedious because of the filtration through cotton, it being difficult to prevent the clogging of the pores because of the fineness of the powder.—K. SEILER. *Schweiz. Apoth.-Ztg.*, 74 (1936), 481. (M. F. W. D.)

Swiss Pharmacopœia V—Remarks of a Pharmacist on. The test for reducible substances in acetic acid as given in the Swiss Pharm. V allows 40 to 50 times as much reducible matter as the IV edition or as foreign pharmacopœias. The author suggests a change in the test inasmuch as acetic acid meeting the strict requirements of U. S. P. XI is easily available. The general procedure for the determination of dry residue in fluidextracts is indefinite and the results vary and depend on: the weight of sample taken, the volume of the flask in which it is evaporated, the temperature at which it is dried, and the duration of drying. The author reports several determinations run to illustrate these facts and suggests a more definite procedure. He advises the elimination of several plasters, among them compound mercury plaster.—K. SEILER. *Schweiz. Apoth.-Ztg.*, 74 (1936), 539. (M. F. W. D.)

Swiss Pharmacopœia V—Remarks of a Pharmacist on. The ease of filtration of infusion of digitalis has been found to depend partially upon the moisture content of the crude drug employed, being greater for the drug with more moisture, and on the size of the powder. It has also been established that the preparation is more active if it is not filtered clear. The author suggests the use of a pledget of cotton in an ordinary glass funnel. There is some confusion in the system of numbering the solutions used in urine analysis. The Swiss Pharmacopœia gives 79.5° to 81° as the melting point of trichlorisobutyl alcohol (chlorbutanol) but does not state the amount of water which it contains. The melting point varies, of course, with the water content. More definite statements are needed here.—K. SEILER. *Schweiz. Apoth.-Ztg.*, 74 (1936), 565. (M. F. W. D.)

Swiss Pharmacopœia—New Experiences with. The author describes some of the difficulties attendant on the preparation of the following extracts and fluidextracts of the Swiss Pharm.

V: extracts of cinchona, concentrated male fern, ipecac, opium, strychnine and fluidextract of licorice. Some suggestions are offered toward avoiding them. A suggestion is made with regard to the preparation of a syrup from fluidextract of bitter orange.—C. BEGUIN. *Schweiz. Apoth.-Ztg.*, 74 (1936), 549. (M. F. W. D.)

NON-OFFICIAL FORMULÆ

Balsam of Pine—Composition of. The Danish Apothecaries Control Laboratory announce a formula for an improved Balsam of Pine: I. Uranin A Merck, 5 Gm., Spiritus cum Viola 45 Gm., Glycerinum 262 Gm., Natrii sulforicinolas 80%, 350 Gm., Solutio kalii hydroxydi venalis 50%, *q. s.* II. Ambra A (a synthetic amber, A. Maschmeijer, Jr., Amsterdam) 0.2 Gm., Cinnamein 5 Gm., Terpineolum 5 Gm., Terpinyli acetas 10 Gm., Bornyli acetas, 100 Gm., Ætheroleum Terebinthinæ 129.8 Gm., Ætheroleum Pini sylvestris 50 Gm., to make 1,000 Gm. of the balsam. Stir up the Uranin A in alcohol, mixed with the glycerin, the Turkey Red oil and the calculated quantity of 50% alkali. Stir solution I with solution II. A specimen of the Turkey Red oil is emulsified with water and titrated with alkali (phenolphthalein indicator) to determine the quantity of the potassium hydroxide needed for its neutralization.—E. V. CHRISTENSEN. *Arch. Pharm. og Chemi.*, 43 (1936), 487. (C. S. L.)

Burns—Medicament for the Treatment of. An ointment for the treatment of burns contains tannic acid in aqueous solution, and a sulfonated oil menstruum composed of neutral sulfonated sperm oil and neutral sulfonated petroleum oil in the ratio by weight of about 3:2 and in total amount to render the ointment spontaneously diffusible in water.—RUSSEL J. FOSBINDER, assignor to THE MALTBIE CHEMICAL CO. U. S. pat. 2,056,779, Oct. 6, 1936. (A. P.-C.)

Cosmetic Ointments. These contain greaseless vehicles and are of value in the treatment of minor cuts, bruises, burns, abrasions, pimples and other afflictions of the hands and face and are non-staining and non-sticky. It appears as if medicaments are more easily absorbed from these than they are in the usual type of ointment since the vehicle is a vanishing cream. The following formulas are offered: *Cosmetic Ointment.*—Stearic acid 15%, potassium hydroxide 0.75, cetyl alcohol 2, cholesterin 1, glycerin 16, distilled water 60.25, refined peanut oil 5. Dissolve the alkali in the hot water to which the glycerin has been added. Melt the other ingredients together and slowly stir in the alkali solution, mix thoroughly and allow to stand for a day. Consistency may be changed by increasing the amount of alkali. *Vanishing Cream Base (A).*—Potassium hydroxide 0.8%, stearic acid 20, water 61.2, glycerin 15 and mineral oil 3. Make as above. (B) Glyceryl monostearate 13%, beeswax 2, glycerin 10, water 70, sesame oil 3, lecithin 2. Heat all the ingredients together except the lecithin until all are liquefied, stir in the lecithin; if opalescent add 1–2% titanium oxide.—ANON. *Drug and Cosmetic Ind.*, 39 (1936), 455–456. (H. M. B.)

Disinfectants—Non-Poisonous. In experimenting to obtain formulas, two products of high Rideal-Walker coefficient were used—*p*-chlor-*m*-xylenol (R. W. = 60 in a saponaceous solvent), and Cresantol 3 (R. W. = 105). Two formulas are given:

Formula A.	
Cresantol 3	3.00 cc.
Ti-tree oil	3.00 cc.
Oil of lemongrass	0.05 cc.
Isopropyl alcohol	10.00 cc.
Triethanolamine	5.00 cc.
Ricinoleic acid	5.00 cc.
Water *q. s.*	100.00 cc.
Formula B.	
Cresantol 3	3.00 cc.
Terebene	2.00 cc.
Oil of sassafras	1.00 cc.
Industrial methylated spirit	10.00 cc.
Potassium hydroxide solution 10%	10.00 cc.
Ricinoleic acid	6.00 cc.
Distilled water *q. s.*	100.00 cc.

—ANON. *Pharm. J.*, 137 (1936), 273. (W. B. B.)

Ferroplex Granules, D. A. K. The Danish Apothecaries Society Control Laboratory

announces a formula for granules of ferrous tartrate for compression. Each gram contains 20 cg. of ferrous tartrate. To make 1000 Gm. of granules: Acidum tartaricum pulveratum, 10 Gm., Ferrosi tartras, 200 Gm., Saccharum pulveratum, 390 Gm., Pasta cacao deoleata, 400 Gm., Spiritum conc. (*ca.* 300 Gm.), *q. s.* Mix, moisten with spirit, granulate through No. 5 sieve, dry at 40° C., sift (No. 3) and regranulate siftings.—E. V. CHRISTENSEN. *Arch. Pharm. og Chemi*, 43 (1936), 509. (C. S. L.)

Insecticidal Solution. The insecticidal principles of derris and for pyrethrum are dissolved in one or more of the following alkylated phenolic ethers: safrol, anethol, methyl eugenol, camphor oil.—ROBERT WOTHERSPOON, assignor to DERRIS, INC. U. S. pat. 2,058,200, Oct. 20, 1936. (A. P.-C.)

Insecticidal Spray Compositions. An insecticidal spray conditioning composition useful in preparing horticultural sprays is composed of a fatty acid soap of an alkali metal (the acid being in sufficient excess over the alkali to ensure substantial neutrality to phenolphthalein), casein and petroleum sulfonic salts, all in aqueous solution.—WILLIAM H. VOLCK, assignor to CALIFORNIA SPRAY-CHEMICAL CORP. U. S. pat. 2,056,238, Oct. 6, 1936. (A. P.-C.)

Insecticide. The preparation contains principally dichlorobenzol, a volatile petroleum solvent, alcohol, β-naphthol and rosin.—FRANK H. LYONS, assignor to E. L. BRUCE CO. U. S. pat. 2,059,125, Oct. 27, 1936. (A. P.-C.)

Insecticide. An insecticide consists of an insect poison and a carrier (containing as an essential ingredient an emulsified unneutralized heterocyclic nitrogenous oily base) which renders deposits thereof easily removable.—CARL P. HOPKINS, assignor to THE LATIMER-GODWIN CHEMICAL CO. U. S. pat. 2,058,588, Oct. 27, 1936. (A. P.-C.)

Insecticide. A plant spray composed of a Diesel fuel oil emulsified with water by means of a clay of the bentonite type and high speed agitation and contains a substance producing an acid ion.—WALTER CARTER. U. S. pat. 2,056,121, Sept. 29, 1936. (A. P.-C.)

Insecticide and Germicide. A water-emulsifiable, insecticidal and germicidal base product contained about 75 to 85% by volume of petroleum constituents soluble in liquid sulfur dioxide (composed essentially of unsaturated and aromatic hydrocarbons) in combination with an alkali soap and cresylic acid.—WILLIAM H. HAMPTON, assignor to STANDARD OIL CO. OF CALIFORNIA. U. S. pat. 2,055,491, Sept. 29, 1936. (A. P.-C.)

Insecticide and Parasiticide. A dihalogenated butene is used as the active ingredient.—KURT MEISENBURG and HANS KÜKENTHAL, assignors to WINTHROP CHEMICAL CO. U. S. pat. 2,057,044, Oct. 13, 1936. (A. P.-C.)

Insecticides. A water-miscible insecticide consists of material obtainable from derris or the like containing rotenone, deguelin, tephrosin and toxicarol, and a water-soluble phenol containing at least 2 hydroxyl groups such as resorcinol.—ROBERT WOTHERSPOON, assignor to DERRIS, INC. U. S. pat. 2,052,374, Aug. 25, 1936. (A. P.-C.)

Insecticides Containing Derris Extracts. Plants containing rotenone and other constituents toxic to insects are treated with a mixed solvent capable of selectively dissolving the toxic substances to the exclusion of kerosene-insoluble resinous materials. The solvent suitably contains a petroleum distillate having a maximum boiling-point below 625° F. and a sufficient amount of an organic solvent soluble in the petroleum distillate and able to dissolve at least 2.5% of the toxic substances.—NICHOLAS A. SANKOWSKY, assignor to STANCO INC. U. S. pat. 2,058,832, Oct. 27, 1936. (A. P.-C.)

Hand Creams—Superfatted. Occupational dermatitis and the use of superfatted creams for this purpose are discussed. The following formula was found to be effective: Lanolin anhydrous 20%, absorption base 10, oil vegetable 15, cetyl alcohol 3, propyl *p*-aminobenzoate 0.5, water 51.5. Melt the first four ingredients on a water-bath, add the anesthetic and the warm water in a slow stream agitating vigorously until the ointment begins to thicken.—L. STAMBOVSKY. *Drug and Cosmetic Ind.*, 39 (1936), 187, 192. (H. M. B.)

Hekto-adrenalin, D. A. K. The Danish Apothecaries Control Laboratory announces a formula for a Nebula Adrenalini Concentrata (1 cc. contains 0.10 Gm. epinephrine) as follows: Acidum hydrochloricum dilutum, 2.8 Gm., Aqua distillata sterilizata, *q. s.*, Chlorbutanolum, 0.07 Gm., Natrii pyrosulfis, 0.01 Gm., Epinephrinum, 1 Gm., to make 10 cc. (10.37 Gm.). Compounding directions are given. Purity standards and tests are cited for the sodium metabisulfite.—J. A. GJALDBAEK. *Arch. Pharm. og Chemi*, 43 (1936), 452. (C. S. L.)

Liquid Cosmetic Preparation. A liquid preparation forming a smooth invisible film on the face is composed of about 3 parts of fresh uncooked albumin such as that from eggs and about 1.5 parts of 70% alcohol.—VICTORIA GONCAROVA. U. S. pat. 2,043,657, June 9, 1936. (A. P.-C.)

Lotions—Evaporating and Deodorant. Evaporating or cooling solutions include lotions for aftershaving, prickly heat,the face and the hands (10 formulas). Deodorant lotions include 3% solution hydrogen dioxide, 0.1–1% potassium permanganate solution, solutions containing hypochlorites, chloramine and dichloramine, perspiration deodorants (3 formulas) and deodorizing and cleansing solutions (1 formula).—A. RICHARD BLISS, JR. *Drug and Cosmetic Ind.*, 39 (1936), 177, 192. (H. M. B.)

Nourishing Creams. The composition of these creams is discussed and they should in general contain lanolin or similar products, petrolatum, spermaceti, cocoa butter and a vegetable oil such as almond, cherry and peach kernel, olive, peanut, sesame, etc. It is essential that pure products be used. The following formulas are offered: (1) lanolin 35, petrolatum 45, spermaceti 5, water 15. Melt the first three ingredients together, cool to 45° C., add perfume (1%) and incorporate the water by vigorous mixing at the same temperature. (2) Beeswax 5, lanolin absorption base 15, vegetable oil 5, cocoa butter 5, mineral oil 10, water 60. Melt all of the ingredients except water together, allow to cool to 40° C., add water at the same temperature in small portions with stirring after each addition; (3) Beeswax 16, petrolatum 18, lanolin 1, cocoa butter 5, vegetable oil 20, water 39 and borax 1. Melt all of the oily ingredients together at 60° C., stir in the borax dissolved in the water at the same temperature; stir vigorously until emulsified and then more slowly until the cream is cold.—JOSEPH KALISH. *Drug and Cosmetic Ind.*, 39 (1936), 174–175. (H. M. B.)

Pectin-Agar Preparation. The following formula was designed to provide a product which could be administered to infants suffering from diarrhœa: Dextrin and maltose, 175 Gm.; Acid-free Pectin, 6 Gm.; Agar-agar, finely ground, 8 Gm. It had previously been shown that scraped raw apple was beneficial in this condition, hence the use of pectin. Agar-agar was chosen as a desirable source of cellulose. The substances are mixed dry. Water or milk is boiled with the mixed powders for three to five minutes, and while still hot the product is poured into eight custard cups to form a day's feeding on a three-hour schedule. Nothing else was given except a 5% solution of dextrose.—M. WINTERS and C. A. TOMPKINS. *Amer. J. Dis. Child.*, 52 (1936), 259; through *Pharm. J.*, 137 (1936), 322. (W. B. B.)

Salve Containing Myristyl Alcohol. A salve substantially free from soap and which is suitable for cosmetic purposes, etc., contains "fairly pure" myristyl alcohol free from more than slight traces of other higher aliphatic alcohols, with a vehicle such as petrolatum and glycerin or an olive oil potassium soap.—WALTER SCHRAUTH. U. S. pat. 2,045,415, June 23, 1936. (A. P.-C.)

Spray Formulas. Formulas are given for a concentrated nicotine spray, a concentrated mildew spray and fertilizers for pot plants. The nicotine insecticide formula is as follows: Nicotine, commercial (95%), 5 fl. oz.; soft soap, commercial, $2^1/_2$ lb., alcohol (95%), 80 fl. oz. For use dilute with 160 volumes of water. The mildew spray is: Linseed oil, 12 fl. oz.; liver of sulfur, 2 lb.; cresol, 3 lb.; caustic potash, commercial, 1 lb.; water, *q. s.* 1 gallon. An insoluble and a soluble fertilizer formula is given.—ANON. *Pharm. J.*, 137 (1936), 125. (W. B. B.)

Tooth Paste and Process for Making. A tooth paste is made by mixing sodium perborate, a liquid petrolatum, a body-supplying component, an emulsifying agent consisting of sodium lauryl sulfate, and alcohols of higher molecular weight.—PHILIP J. BREIVOGEL, assignor to WILLIAM R. WARNER AND CO., INC. U. S. pat. 2,052,694, Sept. 1, 1936. (A. P.-C.)

DISPENSING

Collyria—Extemporaneous Preparation of Isotonic Ready Method for. Sub-titles indicate the scope of the paper: Why are isotonic collyria preferred; how isotonic solutions are prepared; method for determining the tonic factors; method of determining sodium chloride necessary from tonicic equivalents; tonicic equivalents; how to use the table. The table of tonicic equivalents gives concentration in per cent, concentration in grains per ounce and sodium chloride tonicic equivalent of 1 grain, for some twenty chemicals.—MORRIS MELLEN and LEONARD A. SELTZER. *J. Am. Pharm. Assoc.*, 25 (1936), 759. (Z. M. C.)

Intravenous Solutions—Observations on, in the Hospital Pharmacy. Unsatisfactory re-

sults from use of preparations for intravenous injection made in the hospital have been studied for causes. Some of those listed are: faulty technic in preparation and administration, personal factors, hemolytic factor, hydrogen-ion concentration, use of impure chemicals and bacterial proteins. The first three were not encountered with commercial solutions, hence eliminated. The H-ion "reaction producing" solutions, by colorimetric tests, coincided within the limits of those not producing reactions. Theory of impure chemicals did not seem valid. Bacterial cause seemed most likely. Studies by Seibert concluded that fever-producing substances, pyrogens, are of "probable bacterial origin, heat labile, non-volatile, produced by specific bacteria which grow in distilled water and pass through a Berkefeld filter." This author found that water properly distilled and preserved will remain free of pyrogens for 24 hours. Figures are given to show the saving to the institution in preparing parenteral solutions. The paper discusses the distillation of water, the materials used and the preparation of the solutions, the kind of containers to use, methods of closing the containers and sterilization of the solutions.—H. C. McAllister and Henry M. Burlage. *J. Am. Pharm. Assoc.*, 25 (1936), 756. (Z. M. C.)

Milk of Magnesia—Desiccated. An aqueous suspension of bentonite clay is mixed with magma magnesia in a proportion which serves to preserve the colloidal form of the magma magnesia on drying.—Sol Snyder. U. S. pat. 2,052,902, Sept. 1, 1936. (A. P.-C.)

Prescriptions—Unusual. A brief discourse concerning the management and compounding of several unusual prescriptions.—W. A. Woodard. *Pharm. J.*, 137 (1936), 275. (W. B. B.)

Pharmaceutical History

Apothecaries—History of, in Landau. The conclusion of a series of articles.—Julius Hagen. *Apoth. Ztg.*, 51 (1936), 1356–1358. (H. M. B.)

Pharmaceutical Education

Historical Review of Some Early Works from the Field of Pharmaceutical and Medical Botany. A review with 32 references.—A. Müller. *Apoth. Ztg.*, 51 (1936), 1401–1404. (H. M. B.)

Pharmacy Course—Requirements for Entrance to. Answers to a questionnaire sent out by the Secretary of the N. A. B. P. to the deans of colleges of pharmacy are summarized and discussed. Following were the questions: "What are your requirements for admission in addition to high school graduation, if any? Do you *require* retail drug store experience, orientation tests, etc.? Do you select only high school students of upper grade rating? What consideration is given to the character of the student or his fitness for practice?"—H. C. Christensen. *J. Am. Pharm. Assoc.*, 25 (1936), 790. (Z. M. C.)

Pharmaceutical Legislation

Legislative Weather Vanes. Attention is directed to the way pharmaceutical legislation has developed bringing it down to the present time and to the rewriting of pharmaceutical laws of the state of Maryland. Some outstanding points are noted. Manufacturing was brought under regulation as well as the retail establishments. There has been regulation as to sanitation and equipment. The Board has been directed to prescribe a minimum of professional and technical equipment for a drug store. There was a change in the law regulating control and distribution of poisons.—Robert L. Swain. *J. Am. Pharm. Assoc.*, 25 (1936), 794. (Z. M. C.)

Miscellaneous

Antirachitic Product and Process. An antirachitically activated product is produced by subjecting yeast to the action of light comprising ultraviolet rays for a period sufficient to effect substantial antirachitic activation of the yeast.—Harry Steenbock, assignor to Wisconsin Alumni Research Foundation. U. S. pat. 2,057, 399, Oct. 13, 1936. (A. P.-C.)

Antiseptic Lotions. A discussion dealing with solutions for skin sterilization, eye lotions, nasal lotions, douches, sprays and irrigations, mouth washes and gargles, urethral lotions, vaginal lotions, douches and irrigation.—A. Richard Bliss, Jr. *Drug and Cosmetic Ind.*, 39 (1936), 444, 456, 464, 491. (H. M. B.)

Bandage Material—Surgical. Flexible bandage material is formed with a layer of film-

forming cellulose ester or cellulose ether, such as cellulose sulfoacetate, dispersed in volatile organic solvents and adapted to be penetrated by water and associated with calcined gypsum convertible into hydrated calcium sulfate upon moistening the bandage so as to effect resetting of the calcined gypsum upon moistening.—KARL MIENES. U. S. pat. 2,053,728, Sept. 8, 1936. (A. P.-C.)

Beeswax in Creams. Experiments carried out on two types of creams containing this wax showed that (1) the acid numbers were of little importance in making good beeswax-borax emulsions, (2) the ideal consistency for pouring such creams is 42° C. thus preventing "topping" of the cream, (3) chemically treated beeswaxes develop the least amount of odor in creams; otherwise but little difference between sun-bleached and chemically bleached products in the quality of texture, color, emulsifying ability of stability of the creams thus formed, (4) as the borax content is reduced the cream becomes more oil when rubbed into the skin and (5) synthetic waxes being more uniform than beeswax yields excellent creams. The formulas employed in this study were (1) beeswax 14.8, mineral oil 125°, 56.0, water 28, borax 0.75 and perfume 0.45. (2) Beeswax 10, ceresin 6, paraffin 3, mineral oil, 125°, 52, water 28, borax 0.6 and perfume 0.4.—THORPE W. DEAKERS. *Drug and Cosmetic Ind.*, 39 (1936), 448–449, 454, 476. (H. M. B.)

Bread and Bread Cereals in German Antiquity. Historical.—WALTER VON STOKAR. *Apoth. Ztg.*, 51 (1936), 1398–1401. (H. M. B.)

Catgut—Surgical Sterilization of. The efficient sterilization of catgut for surgical purposes is far from simple and presents special problems. Serious danger attends the use of raw catgut, or so-called internally sterilized catgut, to which sterilizing processes of doubtful efficacy are applied in the hospital. Many brands of efficiently sterilized catgut are available. Postoperative tetanus, gas-gangrene and other infections from surgical catgut can be prevented by the use of catgut sterilized by proper methods.—REPORT BY THE MINISTRY OF HEALTH. *Pharm. J.*, 137 (1936), 254. (W. B. B.)

Citrus Peel Oils—Technical Qualities of. A discussion of the variations in the quality and composition of oils of citrus peels obtained by different processes: sponge, spoon, distillation, and various types of machines.—A. ROLET. *Parfumerie Moderne*, 30 (1936), 237–247. (A. P.-C.)

Cosmetic Creams—Modern. Oxycholesterol, manufactured by the oxidation of cholesterol, is one of the most powerful emulsifying agents known for the production of water-in-oil emulsions. Modern absorption bases depend on this material, and usually consist of soft paraffin with a small proportion of oxycholesterol with or without the addition of cholesterol. As these creams are stable to acids, the use of absorption bases provides a method of preparing acid cosmetic creams. Seven parts per thousand of oxycholesterol is about the minimum proportion that should be incorporated in the formula. A tendency to form emulsions of the water-in-oil type is exhibited by alcohols of high molecular weight other than oxycholesterol. Of special interest practically may be mentioned myristyl, cetyl and stearyl alcohols. The secret of making good emulsions with these alcohols is to work in the cold. Generally, not less than 10% of the emulsifying agent should be used, and, in some cases, more may be advantageously employed. This is incorporated with the other fat-like constituents using gentle heat; and when cold the aqueous phase, containing the desired acid-constituents, is worked in.—H. S. REDGROVE. *Pharm. J.*, 137 (1936), 295. (W. B. B.)

Curaçao Aloe. Aloe is the most important export product of the province of Curaçao. Most of the aloe comes from the islands of Aruba and Bonaire. The average yearly export over the last 27 years has been 475 tons of which 395 tons came from Aruba, 75 tons from Bonaire and the rest from the island of Curaçao. The cultivated variety is *Aloe vera* Linn. The author reports on various samples received in recent years by the Colonial Museum at Amsterdam.—P. A. ROWAAN. *Pharm. Weekblad*, 73 (1936), 450. (E. H. W.)

Ether—Purification of. For reducing the aldehyde content to less than 10 parts per million, ether is contacted successively with an alkali, a bisulfite solution (sodium bisulfite) and an alkali (5% caustic soda).—FERDINAND W. NITARY, assignor to E. R. SQUIBB AND SONS. U. S. pat. 2,053, 439, Sept. 8, 1936. (A. P.-C.)

Granulating by Slugging. A discussion.—JOHN A. SILVER. *Drug and Cosmetic Ind.*, 39 (1936), 446–464. (H. M. B.)

Hospital Laboratory. A brief discussion of the average equipment and facilities necessary for hospital laboratories.—ANON. *Pharm. J.*, 137 (1936), 255. (W. B. B.)

Medicinal Soaps. Soaps which are divided into sulfur, mercury, phenol and oxygen (ozone) soaps are discussed.—ANON. *Pharm. Monatsh.*, 17 (1936), 174–175. (H. M. B.)

Pharmaceutical Preparation for Stimulating the Respiratory Center and Increasing the Circulation. The principal effective ingredient is phthalic di-ethylamide.—FELIX HAFFNER and FRITZ SOMMER, assignors to CHEMISCHE FABRIK GRÜNAU, LANDSHOFF & MEYER A.G. U. S. pat. 2,057,145, Oct. 13, 1936. (A. P.-C.)

Plant Parasites—Chemicals Used against. The authors describe some further uses of arsenious acid, naming the insects against which it is most employed and giving directions for several preparations of it. Arsenic acid was once recommended for the disinfection of grains but it appears to have been abandoned. Other materials described are: ammonia, ammonium sulfide, ammonium sulfate, sodium thiosulfate and sea salt.—A. and R. SARTORY. *Schweiz. Apoth.-Ztg.*, 74 (1936), 597. (M. F. W. D.)

PHARMACOLOGY, TOXICOLOGY AND THERAPEUTICS

PHARMACOLOGY

Acetanilid—Antipyretic Action and Toxicity of Effects of Sodium Bicarbonate on. The author found that sodium bicarbonate in a molecular ratio of two to one is markedly antagonistic to the acute toxic effects of acetanilid. Smaller and larger ratios are less effective. The 50% fatal dose in rats of acetanilid plus sodium bicarbonate in a molecular ratio of two to one is approximately 1,000 mg. per Kg. Addition of bicarbonate to the 50% fatal dose of acetanilid reduced the fatalities to 20%. In rats fevered by yeast injections, sodium bicarbonate in a molecular ratio of two to one did not significantly affect the antipyretic effect produced by 12.5 mg. per Kg. of acetanilid. In normal animals sodium bicarbonate does not significantly affect the fall in temperature produced by 400 mg. per Kg. of acetanilid, indicating that the rate and extent of absorption are not appreciably altered. The administration of 400 mg. of acetanilid per Kg. plus 500 mg. per Kg. of sodium bicarbonate to normal rats daily for twelve weeks produced a significant retardation of growth, slightly less than that produced by acetanilid alone. The addition of bicarbonate did not prevent the changes in the hemoglobin concentration, the erythrocyte and the reticulocyte counts produced by 400 mg. per Kg. of acetanilid given daily.—PAUL K. SMITH. *J. Pharmacol.*, 58 (1936), 192. (H. B. H.)

Anti-Pernicious Anemia Liver Extracts—Bioassay of, Modified Pigeon Method for. Four different parenteral liver extracts known to be effective clinically in pernicious anemia increased significantly the amount of recticular material in the red blood cells of the grain-fed pigeon. Despite a certain lack of specificity, shared by the rat and guinea pig methods, the modified pigeon procedure outlined by the authors is recommended for testing the potency of anti-pernicious anemia liver extracts, until a method superior to all three is found.—G. E. WAKERLIN, H. D. BRUNER and J. M. KINSMAN. *J. Pharmacol.*, 58 (1936), 1. (H. B. H.)

Antipyrine Derivative—Antipyretic Action of a New. 1-Phenyl-2-methyl-4-ethyl-pyrazol-5-one was injected subcutaneously into rabbits made feverish by previous subcutaneous injections of peptone; a dose of 100 mg. per Kg. decreased the temperature 2.1° F. in 2½ hours. Compared with antipyrine its action was more potent and rapid. The M. L. D. for mice was 0.75 mg. per Gm.—C. L. YI and B. E. READ. *Chin. J. Physiol.*, 10 (1936), 297; through *Physiol. Abstr.*, 21 (1936), 586. (E. V. S.)

Cortical Hormone Preparations—Bioassay of, and the Adrenalectomy of Rats. The technic of adrenalectomy of the white rat used by the author in the laboratory of the A. S. Medicinal Co. is described. The effect of salt diet on the survival time and growth of the operated animal is discussed. The testing of a cortical adrenal extract (Eucortan 110) in the adrenalectomized rat is described. The error of this type of bioassay is discussed. With 6–8 animals in each group and 2–3 groups at different dose levels, the accuracy of determination is under 50%.—P. SCHULTZER. *Dansk Tids. Farm.*, 10 (1936), 225. (C. S. L.)

Digitalis Assay—Influence of the Anesthetic on Results of, by the Cat Method of Hatcher and Brody. Various lots of digifoline specimens were assayed upon cats anesthetized either with ether or the intraperitoneal injection of dial-urethane solution. Comparison of the results

obtained indicate that the cat unit as determined on cats anesthetized with dial-urethane is larger than that obtained in the use of cats anesthetized with ether.—CHARLES A. HASKELL. *J. Pharmacol.*, 58 (1936), 111. (H. B. H.)

Digitalis Preparations—Assay of. A method is recommended using the isolated heart of *Rana nigromaculata*. From the isometric contraction the absolute force of contraction (B) is obtained, and from the isotonic contraction the increase in the stroke volume (A) is calculated. The product A × B = W gives a more satisfactory measure of the potency since estimations of activity and toxicity do not agree.—T. TAKABE. *Mitt. med. Ges. Tokio*, 49 (1935), 753; through *Physiol. Abstr.*, 21 (1936), 583. (E. V. S.)

Diuretics—Action of. Two groups xanthine derivatives and mercurials have received the most clinical and experimental attention. Xanthine derivatives are of value in cardiac edema, but not in hepatic or renal. Mercurials are also useful in cardiac edema. Both groups exert their main action on the kidneys, the xanthine derivatives increasing glomerular filtration, and the mercurials retarding tubular reabsorption.—ANON. *J. Am. Med. Assoc.*, 105 (1935), 887. (M. R. T.)

Ergometrine—Action of, on Diuresis. The intramuscular injections of ergometrine increased the quantity of urine emitted while fasting, and consecutively augmented the diuresis upon ingestion of water and solutions of sodium chloride and urea. It tends to increase the amount of chlorides during the diuresis while fasting, of diuresis following ingestion of a solution of urea, exaggerates the diminution of content in urea in the course of aqueous diuresis and sometimes in the course of sodium chloride diuresis, diminished the amount of urea following diuresis during fasting and exaggerates the increase of urea elimination caused by ingestion of the substance.—E. ZUNZ and O. VESSELOVSKY. *Arch. Inter. Pharmacody. et Therap.*, 54 (1936), 75. (W. H. H.)

Ergometrine—Pharmacology of. Ergometrine, isolated by Dudley and Moir in 1935, is an ergot alkaloid soluble in water, and is contained in the old-fashioned watery extract of ergot, which contains none of the ergot alkaloids hitherto known. It is simpler in structure than these previously known alkaloids, but is evidently related to them. It is soluble in water to some extent as a free base, and gives salts which are readily soluble in water, and easily absorbed from the alimentary canal. Ergometrine was discovered by its action on the human puerperal uterus, this being shown by a simple mechanical record. It causes central excitation with general sympathetic stimulation, such as has been described as an initial phase of the action of the complex alkaloids of the ergotoxine group. It only produces a trace of the specific paralyzing action on motor sympathetic effects, characteristic of these other alkaloids. It has a much weaker activity in the production of gangrene. It resembles ergotoxine in causing a rise of body temperature when given in toxic doses. It is less toxic than ergotoxine, and is more readily absorbed with oral administration. In the spinal cat, ergometrine has a pressor action, but this is far less than that of alkaloids of the ergotoxine group. Its actions on arterial pressure vary with the conditions of anesthesia or of integrity of the brain. The most characteristic action of ergometrine, and the only one produced by small doses, is the initiation of a long, persistent rhythm of powerful contractions in a uterus normally quiescent, as in the early puerperium. It is only in the puerperal uterus of certain species that there is the association of quiescence with potential responsiveness which appears to be necessary for the clear demonstration of the specific effect of ergometrine. On several organs, apart from the centrally excited sympathetic stimulation, ergometrine appears to have a peripheral action of sympathetico-mimetic type. This, however, is much complicated by other types of action, and does not account for its specific action on the uterus. The article is illustrated.—G. L. BROWN and H. DALE. *Proc. roy. Soc. B.*, 118 (1935), 446; through *Physiol. Abstr.*, 21 (1936), 584. (E. V. S.)

Extract Squill and Scillaren—Effect of, on the Frog's Heart. The toxic action of squill proceeds in the cardiac musculature from the ventricular apex to the base. It prolongs the contraction, especially the systolic plateau, also the diastole and the refractory phase. The frequency of sinus excitation and the velocity of excitatory propagation are diminished, but in a relatively less degree. The picture resembles in all essentials that of the digitalis glucosides, of strophanthin and of antiarin.—A. HALBSGUT. *Klin. Wschr.*, 15 (1936), 420; through *Physiol. Abstr.*, 21 (1936), 527. (E. V. S.)

Insulin—Studies on, with Protamine. The preparation of protamine is described. Three samples of protamine were prepared from the testes of cohoe salmon, spring salmon and steel head salmon. A method for assaying insulin with protamine on rabbits is outlined. Using this method similar sustained hypoglycemic effects were observed when any of the three protamines or that from rainbow trout were mixed with different vials of the same lot of insulin. Using protamine and insulin of low ash content a much less prolonged insulin action was obtained. The addition of a small amount of zinc to the insulin before adding the protamine greatly sustained the hypoglycemic action. These results suggest that zinc, or some other metal, is largely responsible for the combination that results in the prolonged hypoglycemia produced by insulin with protamine. Further proof of this was shown by the fact that freshly mixed commercial preparations of protamine and insulin (which contained only traces of zinc) are not as effective in prolonging insulin action as are those containing a small amount of added zinc or as suspensions which have stood for 40 hours.—D. A. Scott and A. M. Fisher. *J. Pharmacol.*, 58 (1936), 78. (H. B. H.)

Iodine and Arteriosclerosis. Arteriosclerosis is produced in rabbits by administration of quantities of cholesterol, but the administration of thyroid substance or of iodides prevents deposition of cholesterol in arteries when fed to experimental animals.—Anon. *J. Am. Med. Assoc.* 104 (1935), 2260. (M. R. T.)

Methylephedrine and Ephedrine—Comparative Action of. I. Systemic Effects. The blood-pressor action of methylephedrine is approximately $^1/_{10}$ that of ephedrine. The heart is much less accelerated after methylephedrine. In luminalized dogs the intravenous injection of ephedrine causes primary inhibition of the respiration followed by a secondary acceleration by which the rate and minute volume are increased while the tidal air is decreased. When the dosage is raised the primary inhibition is marked, but of short duration, and the secondary acceleration is more marked. During the accelerated stage the response of the respiratory center to carbon dioxide is greater. In luminalized dogs the intravenous injection of moderate doses of methylephedrine produces a prolonged slower and deeper respiration. The minute volume is at first slightly diminished and is then followed by a slight increase, while the tidal air is consistently increased. The response of the respiratory center to carbon dioxide is slightly diminished. Repeated doses cause a similar inhibition though to a less extent. The acceleration seen after ephedrine is never obtained after methylephedrine. Similar results are obtained in normal rabbits, but its inhibitory effect is less marked than that after intravenous injection in dogs. It is probable that this slowing of the respiration is indirectly due to the rise of blood-pressure. The respiratory depression due to morphine is further increased by methylephedrine but antagonized by ephedrine. Methylephedrine depresses febrile hypernœa, but much less than morphine. The laryngeal reflexes seem to be slightly diminished after methylephedrine, but they are augmented after ephedrine. Methylephedrine in moderate doses does not, like ephedrine, even in small doses, stimulate the central nervous system. Methylephedrine dilates the pupil by intravenous injection, but it requires a larger dose than ephedrine. The normal body temperature in rabbits is practically unchanged by subcutaneous injection of moderate doses of methylephedrine. Methylephedrine is less toxic in rabbits and dogs than ephedrine but the toxic symptoms of the two amines are similar. Methylephedrine is also effective by oral administration.—C. Pak and B. E. Read. *Quart. J. Pharm. Pharmacol.*, 9 (1936), 235–255. (S. W. G.)

Methylephedrine and Ephedrine—Comparative Action of. II. Bronchial Effects. The following summary is given: A comparative study of the bronchial effects of methylephedrine and ephedrine has been made on anesthetized cats and isolated lung preparations. In anesthetized cats methylephedrine caused a sustained dilatation of spasmodic bronchioles but its action is slightly slower than ephedrine. The intensity of the dilator effect is only slightly less than that of ephedrine without significant difference in the duration of the effect. The broncho-dilator effect of methylephedrine is independent of the blood-pressor activity. Methylephedrine in a concentration of 1–10,000 to 1–100,000 dilates the isolated bronchioles, while the same concentration of ephedrine constricts the bronchioles. It is considered that methylephedrine should have decided advantages over ephedrine in the treatment of asthma.—C. Pak and B. E. Read. *Quart. J. Pharm. Pharmacol.*, 9 (1936), 256–267. (S. W. G.)

Pharmacology for Pharmacists. The 16th of a series dealing with (*a*) antidiarrhoics (obstipantias) and astringents (and styptics) including lead, silver, aluminum and bismuth com-

pounds, the tannin drugs such as oak, whortle berry and tormentilla and (*b*) demulcents and adsorbents, especially white bolus and charcoal.—H. FÜHNER. *Apoth. Ztg.*, 51 (1936), 1323–1326. (H. M. B.)

Propyl Guaiacol—Anthelmintic Action of. Tested on cats and dogs, the drug expels ascaris, but has no effect on tapeworms, hookworms or flukes. A dose large enough to expel all the worms disturbs the alimentary canal. Large doses depress the respiration and circulation. Compared with santonin, the toxic dose is lower and the therapeutic dose higher.—C. PAK and B. E. READ. *Chin. J. Physiol.*, 10 (1936), 249; through *Physiol. Abstr.*, 21 (1936), 586. (E. V. S.)

Rodenticides—Bioassays of. Reference is made to investigations which have shown that a chemical assay which determines accurately an active constituent may not be a true index of physiological activity for various reasons. Other constituents may be antagonistic or potentiative, impurities may have an effect, levo and dextro forms of chemicals may differ markedly, size of particle may affect rate of solubility. A number of examples are given. Fifteen years of study of strychnine alkaloid and salts have resulted in the conclusion that samples of "C. P. Strychnine" conforming in every way to chemical requirements will exhibit marked variations in physiological activity. Figures obtained from a number of samples are tabulated. Tests upon red squill preparations show variations of 1,000%. A bioassay has been developed. Repetition of failures in rat control campaigns may be prevented. Free sulfuric acid in commercial thallium sulfate was responsible for poor acceptance by various rodents and consequent poor field results. Bioassay would have shown this poor acceptance and allowed correction before undertaking an expensive field trial. Chemical assays of zinc phosphide do not show variation in palatability of samples, though it exists. The authors believe bioassays are necessary for rodenticides.—JAMES C. MUNCH, F. E. GARLOUGH and JUSTUS C. WARD. *J. Am. Pharm. Assoc.*, 25 (1936), 744. (Z. M. C.)

Thorium Nitrate—Pharmacological Effect of, in Very Small Doses. Histological examination of white rats after they had received 0.077 to 0.153 mg. of thorium nitrate and of guinea pigs that had received 0.153 mg. daily for 25 to 100 days showed an increase in liver fats and in some cases renal alterations similar to those observed after the action of certain metalloids (phosphorus, arsenic).—E. ADAMI. *Boll. Soc. Ital. Biol. Sper.*, 11 (1936), 15–16; through *Chimie & Industrie*, 36 (1936), 351. (A. P.-C.)

TOXICOLOGY

Alkali Chromates—Sodium Thiosulfate and Sodium Sulfite as Antidotes for. In rabbit experiments neither sodium thiosulfate nor sodium sulfite was efficacious as internal antidotes for alkali chromates.—A. RABBEND. *Boll. Soc. Ital. Biol. Sper.*, 11 (1936), 31–32; through *Chimie & Industrie*, 36 (1936), 351. (A. P.-C.)

Dinitrophenol—Rapidly Developing Cataract after. Dinitrophenol used as an adjunct in obesity has good results if used with care. Reports of cases of developing cataract in women much younger than the age at which this usually develops, due to the use of dinitrophenol, would suggest discontinuance till relationship is settled.—W. W. BOARDMAN. *J. Am. Med. Assoc.*, 105 (1935), 108. (M. R. T.)

Endocrine Gland Products—Addiction to. Misuse of glandular products is similar to addiction to alcohol or morphine, chiefly in cases of poorly supervised or unsupervised self-medication. Examples given in misuses of thyroid for obesity, epinephrine for asthma, and extracts of gonads as fountains of youth. Symptoms are most frequently psychological, and use of the needle involved.—ANON. *J. Am. Med. Assoc.*, 105 (1935), 1354. (M. R. T.)

Industrial Solvents—Toxicity of. The employers' responsibility for adequate precautions and the problem of efficient ventilation are stressed. The main uses and disadvantages of solvents, with special reference to chlorine-substituted hydrocarbons, are discussed and cases of poisoning instanced where possible.—RALPH G. HARRY. *Mfg. Chemist*, 7 (1936), 345. (C. R. A.)

Methylene Blue in Cyanide Poisoning. Experiments on dogs given injections of methylene blue before or immediately after injection of a minimum lethal dose of hydrocyanic acid (4 mg. per Kg.) showed only mild symptoms of poisoning. Action of methylene blue in counteracting cyanide poisoning seems to depend on formation of methemoglobin.—EDITORIAL. *J. Am. Med. Assoc.*, 105 (1935), 722. (M. R. T.)

Propylene Glycol—Toxicity of. Report is made of a study of the toxicities of propylene glycol and glycerol. Details of experimental work and tabulated results are given for both acute toxicity and chronic toxicity. The M. L. D. for propylene glycol intramuscularly and subcutaneously in rats is 15.7 and 23.1 Gm. per Kg., respectively, as compared with 7.6 and 15.1 Gm. per Kg., respectively, for glycerol. In rabbits, the acutely fatal dose of propylene glycol by oral administration is 20 Gm. per Kg. Daily doses up to 8 cc. per Kg. administered for 50 days are tolerated with no apparent cumulative effect. The local pain caused by injection of undiluted propylene glycol is a serious handicap to its use as a solvent in hypodermic preparations.—HERBERT A. BRAUN and GEORGE F. CARTLAND. *J. Am. Pharm. Assoc.*, 25 (1936), 746. (Z. M. C.)

Radium Poisoning—Treatment of, with Parathyroid and Viosterol. Report of four patients suffering with radium poisoning. Parathyroid injections and low calcium diet were alternated with high calcium diet and viosterol. Patients responded only slightly, eliminating less than 1% in test period—although previous investigators had reported as high as 50% elimination by same treatment.—LLOYD F. CRAVER and HERMAN SCHMIDT. *J. Am. Med. Assoc.*, 105 (1936), 959. (M. R. T.)

THERAPEUTICS

2-Alkoxy-quinoline Derivatives—Investigation of Relation between Constitution and Anesthetic Action. The activity of Percaine is not dependent upon the ethylenediamine group, since the simple diethylamides of 2-alkoxy-quinoline are likewise anesthetic. The greater activity of Percaine lies in its stronger basicity. The anesthetic characteristics of 2-alkoxy-4-aminomethylquinoline suggest that not 2-alkoxy-cinchoninic acid, but 2-alkoxy-quinoline should be regarded as the active group. The carboxyl group of 2-alkoxy-cinchoninic acid derivatives does not influence their pharmacological activity. 2-Alkoxy-4-aminomethylquinoline retains its activity after introduction of aliphatic alkyl radicals in the amino group. Replacement of aliphatic by aromatic residues results in compounds of weaker basicity which are inactive. By the introduction of a basic amino group in the aliphatic side chain of 2-alkoxy-4-alkyl-aminomethylquinolines, compounds are produced which are inactive because of too great a basicity and too little lipoid solubility. 2-Alkoxyquinolyl-4-α-aminoalkyl ketones exhibit vasoconstrictor, but not anesthetic properties. The amino-ketone group restricts strong vasoconstriction.—H. WOJAHN. *Arch. Pharm.*, 274 (1936), 83. (L. L. M.)

Ammonium Mandelate. Ammonium mandelate is now being largely used as a urinary antiseptic, for when taken internally the free acid is liberated and discharged into the bladder, where it exercises a bacteriostatic effect if of sufficient concentration to produce a p_H of 5.3 (*i. e.*, a pink color with methyl red). Like ammonium chloride, the salt is very disagreeable in taste, and the solutions are usually flavored and sold as "palatable" elixirs. The following is a much-used formula: Mandelic acid, 36 Gm.; strong solution of ammonia, 264 m.; liquid extract of licorice, 240 m.; tincture of ginger, 20 m.; tincture of capsicum, 20 m.; syrup, 1 fl. oz.; mucilage of ceratonia, 3 fl. oz.; chloroform water, *q. s.* 12 fl. oz. One fluidounce, which contains 3 Gm. of mandelic acid, taken with an equal amount of water, four times a day, is the usual adult dose.—W. A. KNIGHT. *Pharm. J.*, 137 (1936), 250. (W. B. B.)

Anthelmintics—Possible New, against Ascarids. Ozonized cottonseed oil, ozonized olive oil and ethyl oleate ozonide are all powerful anthelmintics. Ethyl oleate ozonide is one of the best of the group studied; it is more potent, acts quicker and less toxic than chenopodium oil.—J. D. MCINTYRE. *Standard Remedies*, 22 (1936), 9; through *Scientific Abstr.*, 7 (1936), 39. (E. V. S.)

Antimony Compounds—Chemotherapy of. The application of antimony compounds in the treatment of tropical diseases, particularly kala-azar, is described and the course of the investigations which led Brahmachari to introduce urea-stibamine is traced. These researches on antimony compounds opened up a new vista in the treatment of *Leishmania donovani* diseases by therapeutic organic antimonials.—N. G. CHATTERJI. *Mfg. Chemist*, 7 (1936), 347. (C. R. A.)

Chaulmoogra and Cholesterol—New Complex of, Study of the Treatment of Leprosy by. Experience has proved that chaulmoogra is the most efficacious treatment for leprosy. However, it is poorly tolerated orally or intramuscularly. Many unsuccessful attempts have been made to get chaulmoogric derivatives for intravenous injection. Using a general observation that esters of long chain amino alcohols, under certain conditions, form with cholesterol, associations generally

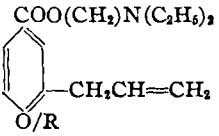
crystalline, non-hemolytic and giving with water stable, ultramicroscopic suspensions; chaulmoogric esters were prepared. Details of the preparation are to be published elsewhere. The preparations used contained 20 to 40 mg. of chaulmoogric derivative per cc. and as much cholesterol. Twelve cases of leprosy were favorably treated by injection of 2–4 cc. per day intravenously. The tolerance was perfect and the maximum dose 6–7 cc.—CHARLES FLANDIN, PIERRE BARANGER and JEAN RAGU. *Compt. rend.*, 203 (1936), 502. (G. W. H.)

Ergotamine Tartrate in Headache. The authors have found that intravenous or subcutaneous injections of 0.5 mg. ergotamine tartrate will relieve migrainous headaches in 90% of patients, even in cases which have proved resistant to other remedies. They consider that this drug has a specific action in this connection, not directly on sensory-nerve endings in the dura or skull, but through some intermediate systemic action. It was tried in forty-six cases of non-migrainous headache; 15% were relieved, 63% were unrelieved, and in 16% headache then developed. The authors record evidence that ergotamine does not paralyze the sympathetic nervous system, nor does it prevent or modify histamine headaches which are believed to originate in the vessels of the dura. Its effect on headache in migrainous and non-migrainous patients could not be related directly to the presence of gastric symptoms.—W. G. LENNOX, T. J. C. VON STORCH and P. SOLOMON. *Amer. J. Med. Sci.* (July, 1936), 57; through *Brit. Med. J.*, 3950 (1936), 610B. (W. H. H.)

Ergotamine Tartrate in the Puerpium. After discharge of the placenta, the uterus presents a fertile field for bacterial growth. Effort is made to expel this membrane and decidua to reduce puerperal sepsis and ergotamine tartrate, because of its oxytocic properties, was given hypodermically the first day and thereafter orally for 3 days. Ergotamine tartrate is preferred to pituitary because the effects are less transient. Report on 400 cases indicates satisfactory results.—M. G. DER BRUCKE. *J. Am. Med. Assoc.*, 105 (1935), 867. (M. R. T.)

Gland Products—Uses and Abuses of, in Gynecology Disorders. Fallacy of analogy in treatment of endocrine disfunction. Because thyroid feeding benefited cases of thyroid hypofunction, millions of ovarian and corpus luteum tablets have been ingested, with only spiritual benefit. But whereas only follicular hormone is necessary for estrus response in animals, carefully balanced combination of follicular and corpus luteum hormone is necessary to influence menstrual cycle in women, and enormous amounts must be used. No ductless gland is stimulated by its own secretion. Anterior pituitary hormone will stimulate gonads, but as yet nothing has been developed to stimulate pituitary. Little effective organotherapy is available for amenorrhea, or for dysmenorrhea, but slightly more for functional bleeding. Estrogenic substance may relieve severe vasomotor menopausal symptoms. Sterility is sometimes relieved by thyroid substance if hypothyroidism is contributory. In all cases environmental factors should not be overlooked.—EMIL NOVAK. *J. Am. Med. Assoc.*, 105 (1935), 662. (M. R. T.)

***p*-Hydroxybenzoic Acid Ethers—Alkamine Esters of, Chemical Constitution and Local Anesthetic Action of.** This class of compounds combines the anesthetic effects of both the phenolic hydroxy and aminoalcohol ester groups seen in the reference formula.



Blockage of the free phenolic group, especially if by methyl, diminishes, but extension of the ether residue results in increased activity for the normal members of the series. Certain branched chain isomers are less active than the normal ethers; others possess an activity approximating that of cocaine. Allyl and *n*-propyl groups are about equally effective. Amination of the alkoxy group is definitely detrimental if the ester group is also aminated. Amination of the ether linkage in the absence of nitrogen in the ester linkage or inversion of groups produces a noteworthy decline in activity. Nitrogen-free ether or ester linkages are practically useless. Substitution of alkyl ortho to the ether group increases anesthetic effect, with accompanying side effects. Increase in activity follows lengthening of the carbon chain of the amino alcohol, there being also a corresponding effect from the same number of carbon atoms in the ether residue. The ether group lends itself more readily to increases in activity through modification than does the amino alcohol group. This class of compounds is said to possess, in so far as the investigation has progressed,

noteworthy freedom from toxicity and high activity.—C. ROHMANN and B. SCHEURLE. *Arch. Pharm.*, 274 (1936), 110. (L. L. M.)

Hyperacidity—Treatment of. Drugs are discussed and divided into (1) those containing belladonna and (2) belladonna-free drugs including the alkalis, aluminum and bismuth compounds, gallic acid salts, preparations containing mucin and calcium preparations.—ERICH HERMANN. *Apoth. Ztg.*, 51 (1936), 1393–1396. (H. M. B.)

Localized Allergy—Therapeutic Use of. Use of atopic reagent for diagnosis of atopic conditions, by intradermal injections, and of serum from patients highly sensitive to chicken egg protein, in healing indolent pyogenic ulcer resulting after chicken-pox. Report is preliminary and further study is suggested.—PAUL D. GARVIN and GERALD M. FRUMESS. *J. Am. Med. Assoc.*, 104 (1935), 2333. (M. R. T.)

Malaria—Quinine in Treatment of. Standard treatment, intensive medication with quinine for two months, and daily for four. Fresh infections are more easily cured than chronic, the time varying with type of fever, and virulence of local strain. Present tendency is toward shorter treatments. Malaria Committee recommends as minimum in benign tertian malaria, 1 Gm. quinine hydrochloride daily for five days. Report of clinical findings on three years' treatment in a small town of a malaria area is given. Quinine sulfate or tannate given daily, cases followed regularly for recrudescence within eight weeks, relapse between 8 and 24 weeks, and recurrence after 24th week within 12 months. Found parasites in peripheral circulation without clinical symptoms of fever, in about half the cases. *Plasmodium vivax* was more common, but *Plasmodium falciparum* was more virulent. Conclude that *Plasmodium vivax* needs only short treatment with quinine, *Plasmodium falciparum* longer, while some other drug should be used for spring relapses.—ROLLA B. HILL and JOSE OLAVARRIA. *J. Am. Med. Assoc.*, 104 (1935), 2329. (M. R. T.)

Nephrosis—Acacia in the Treatment of. Theory of use of acacia intravenously in treatment of edema due to nephrosis is that acacia, being an inert colloid, will raise osmotic pressure of blood above levels at which edema occurs. This use is not satisfactory. Acacia is found deposited in tissues, and is considered responsible for decrease in serum protein, though the mechanism of this protein reduction remains unknown. After unsuccessful administration to patients, dogs were used which confirmed clinical findings.—MARK W. DICK, *et al. J. Am. Med. Assoc.*, 105 (1935), 656. (M. R. T.)

Poliomyelitis—Spray Protection against. Encouraging results in the prevention of intranasally inoculated encephalitis (St. Louis type) by means of sodium aluminum sulfate, picric acid and tannic acid, instilled into the nostrils have been reported. The authors advise the experimental use of a picric acid-sodium alum spray prepared as follows: Solution A: Dissolve 1 Gm. of sodium aluminum sulfate in 100 cc. of physiological salt solution (0.85%). Turbidity may be removed by filtering one or more times through the same filter paper or through a Berkefeld filter. Solution B: Dissolve 1 Gm. of picric acid in 100 cc. of physiological salt solution (0.85%). Mix equal amounts of solutions A and B. On the appearance of cases of poliomyelitis in the community, spray the nose thoroughly once daily on alternate days for three or four applications, then once weekly thereafter for the duration of the poliomyelitis season. The spray should be directed upward toward the top of the head. Protection was afforded by this spray to 20 monkeys against an infection which caused poliomyelitis in sixteen out of twenty unprepared controls.—C. ARMSTRONG and W. T. HARRISON. *Public Health Reports*, U. S. A., 51 (1936), 1105; through *Pharm. J.*, 137 (1936), 322. (W. B. B.)

Procaine Hydrochloride as a Surface Anesthetic. Procaine hydrochloride (20% solution alkalinized with sodium bicarbonate to a p_H of 8.2) is a satisfactory topical anesthetic for oral cavity work.—EDWARD C. DOBBS. *Dental Cosmos*, 78 (1936), 812. (E. V. S.)

Skin Ailments and Wounds—Agents for the Treatment of, during the First Half of 1936. A review.—K. KOCH. *Apoth. Ztg.*, 51 (1936), 1396–1398. (H. M. B.)

NEW REMEDIES

SYNTHETICS

Anara-Röllchen (Sanabo-Chinoin G. m. b. H., Vienna) consists of 0.35 Gm. phenylaminopropane dissolved in a volatile oil and absorbed on cotton.—*Pharm. Post*, 69 (1936), 418. (H. M. B.)

Aurocein (Vincent Christina, Inc.) is a sterile 5% solution of sulfhydryl-gold-naphthyl trisulfocarbonium possessing low toxicity and high antibacterial properties. It is found of great value in the chemotherapeutic treatment of various forms of arthritis and is administered intramuscularly. It is marketed in 2-cc. ampuls (12, 24 and 100 to the box).—*Am. Drug.*, 94, No. 4 (1936), 90. (E. V. S.)

Bismo-Lauryn D R L (Abbott Lab.) is a solution of bismuthyl monolauryl phthalate in olive oil used as an adjuvant to arsphenamines in the treatment of syphilis; particularly indicated in late syphilis. It is supplied in 1- or 2-cc. ampuls (box of 12 or 100).—*Am. Drug.*, 94, No. 4 (1936), 94. (E. V. S.)

Calsuben (Scydel Chemical Co.) is calcium benzyl succinate supplied in 5-grain capsules or as an anise-flavored elixir. It is indicated in the treatment of whooping-cough and in irritating coughs of bronchial, pneumonic or tubercular origin. The capsules are marketed in bottles of 100 and 500 and the elixir in bottles of 4, 12 and 128 oz.—*Drug. Circ.*, 80, No. 11 (1936), 82. (E. V. S.)

Clavitol (Winthrop Chemical Co.) is a diethylaminoethyl ether of 2-methoxy-6-allyl phenol, available in tablets as a sulfonic acid salt or in solution as the hydrochloride. It is used as a uterostyptic and uterotonic, its action resembling ergot; in cases of uterine hemorrhage, excessive menses and irregular bleeding during puberty. Clavitol tablets are supplied in bottles of 50 and 100 and the solution in 1-cc. ampuls (boxes of 10) for subcutaneous or intramuscular injection.—*Am. Drug.*, 94, No. 4 (1936), 104. (E. V. S.)

Deriphyllin (Pharma Ltd., London, W.C.2), for angina pectoris, is theophylline-oxiamine, a combination of 1,3-dimethylxanthine with an oxiamine. The dose is 0.5 to 2 cc. intravenously, or 10–20 drops of the liquid three or four times daily. The 1-cc. ampuls are packed 6 and 25, and the liquid in 10- and 30-cc. containers.—*Australas. J. Pharm.*, 17 (1936), 631. (E. V. S.)

Diodoquin Tablets (G. D. Searle & Co.) contain in each 0.2 Gm. of 5,7-diiodo-8-hydroxyquinoline, an insoluble and non-toxic protozoacide containing 63% iodine. It is used in amebic dysentery, Trichomonas infestation and membranous and mucous colitis. The average dosage is 3 to 6 tablets daily; for lower colon irrigation the tablets may be put into suspension in water and administered by retention enema (2% solution). The tablets are supplied in bottles of 50.—*Am. Drug.*, 94, No. 4 (1936), 108. (E. V. S.)

Enteroid Metaphyllin (Adolphe Hurst & Co., Inc.) are enteric coated tablets containing $1^1/_2$ grains of theophylline-diaminoethane (Metaphyllin). They are indicated in the treatment of arteriosclerosis and associated cardiac disturbances, angina pectoris and edema. The tablets are supplied in bottles of 20, 100 and 250.—*Drug. Circ.*, 80, No. 11 (1936), 82. (E. V. S.)

Euphyllin-Halb Ampuls (Byk-Guldenwerke, Chem. Fabrik A.-G., Berlin), for intravenous combination therapy with digitalis, strophanthin, glucose, etc., contain 0.12 Gm. euphyllin in 1 cc. distilled water.—*Pharm. Zentralh.*, 77 (1936), 637. (E. V. S.)

Iocechinol Ampuls (Atorost Co., Rostock) are sold in packages of 3 ampuls of 5 cc. each, containing 4% of cerium iodothio-oxyquinoline sulfonate in double distilled water.—*Pharm. Presse*, 41 (1936), 426. (M. F. W. D.)

Larocaine Hydrochloride "Roche," the hydrochloride of 1-*p*-aminobenzoyl-2,2-dimenthyl-3-diethylaminopropanol, is a white crystalline powder, easily soluble in water, less soluble in cold alcohol, very slightly in chloroform, insoluble in ether, m. p. 196–197° C. It is a new synthetic anesthetic used effectively in place of cocaine and cocaine substitutes. As a topical anesthetic, it is twice as effective as cocaine and yet only about $^1/_2$ as toxic. It is quick in action and less epinephrine is needed than with procaine. It is used in ophthalmology (2–5% solution for corneal and conjunctival anesthesia), otorhinolaryngology (5–10% solution), urology (30–50 cc. of a $^3/_4$ to 1% solution for vesical anesthesia), and general surgery ($^1/_2$–1% solution). Solutions are made with distilled water or normal saline solutions. It is marketed in vials (1, 10 and 30 Gm. of powder) or tubes (tablets 250 mg.).—*Am. Drug.*, 94, No. 5 (1936), 64. (E. V. S.)

Larodon "Roche," 1-phenyl-2,3-dimethyl-4-isopropylpyrazolon, is an odorless white crystalline powder, sparingly soluble in water but readily in alcohol or ether. It is an effective remedy in relieving pain and reducing fever, indicated for relief of pain in headache, migraine, neuralgia, neuritis, toothache, arthritis, etc. The dose is 5 to 10 grains, thrice daily, or as re-

quired, alone or in combination with other indicated medication. It is marketed as powder in 1-ounce cartons, or as tablets in packages of 10 or bottles of 100.—*Am. Drug.*, 94, No. 5 (1936), 66. (E. V. S.)

Leucarsone (May and Baker Ltd.) is *p*-carbamino-phenylarsonic acid containing approximately 29% of arsenic. It is used in the treatment of amœbic dysentery, dysentery, colitis and other intestinal infections. The adult dose for amœbic dysentery is 0.25 Gm. taken twice daily after meals for ten days. In obstinate cases, a further course should be given after an interval of ten days. Where there is severe ulceration of the colon, retention enemata may be useful. In colitis, one tablet is taken night and morning for from four to six days, repeated, if necessary, after an interval of four days. It is marketed in bottles of 30 4-gr. tablets.—*Australas. J. Pharm.*, 17 (1936), 976. (E. V. S.)

Lycetol (Winthrop Chemical Co.), dimethyl piperazine tartrate, an odorless white powder of agreeable acidulous taste, is recommended in the treatment of gout and for renal and vesical calculi. It is marketed as a powder in 25-Gm. bottles.—*Am. Drug.*, 94, No. 5 (1936), 52. (E. V. S.)

Multibral (H. R. Napp Ltd., London, W. C. 2), a sedative, is sodium monobromoleate. The dose is 1–3 pellets daily and they are packed 25, 50 and 200.—*Australas. J. Pharm.*, 17 (1936), 631. (E. V. S.)

Neospiran Drops (Chem. Fabrik Grünau, Landshoff & Meyer A.-G., Berlin) are composed of a 20% solution of *o*-phthalic-di-diethylamide. It is used as a respiratory and chest stimulant.—*Pharm. Zentralh.*, 77 (1936), 638. (E. V. S.)

Novofosfan (Winthrop Chemical Co.) is the sodium salt of dimethylaminomethyl phenylphosphinous acid. Clinical experiments have demonstrated that it is of distinct value in the treatment of neurasthenia, psychoneuroses and asthenic conditions. It is administered in 2% solution either intramuscularly or subcutaneously; and marketed in boxes of ten 1-cc. ampuls.—*Am. Drug.*, 94, No. 5 (1936), 74. (E. V. S.)

Oreton-B in Oil Ampuls (Schering Corp.) contain pure synthetic crystalline dihydroandrosterone benzoate, the chemical constitution of which has been definitely established and the physiological activity constant. It is administered intramuscularly and is of value particularly in those conditions associated with hormone deficiency in which a constant supply of small quantities of male hormone, over a period of time, is desired. Oreton-B is supplied in boxes of three or six 1-cc. ampuls containing 0.5, 1.0 or 2.5 mg. of the hormone.—*Drug. Circ.*, 80, No. 11 (1936), 35. (E. V. S.)

Prontosil Tablets and Prontosil Solubile (I. G. Farben.) contain 0.3 Gm. 4-sulfonamide-2,4-diaminoazobenzol per tablet and in the solution the disodium salt of 4-sulfonamido-phenylazo-7-acetylamino-1-oxynaphthaline-3,6-disulfoacid in 2.5% solution. Both preparations have a specific action on microörganisms causing sepsis, on streptococci and staphylococci. They are more active than other therapeutic agents used for this purpose. Except in large doses, they have no effect on the heart function and blood pressure, nor on the physiological functions of the large and small intestine and the uterus. The urine is colored red by a decomposition product. In streptococcus infection, *i. e.*, otitis media, peroral administration of prontosil will oppose the onset of fever; in more serious instances an intramuscular injection is given. Good results have been obtained in erysipelas, polyarthritis, puerperal sepsis and other instances of streptococcus and staphylococcus sepsis, as well as in cystitis and pyelitis. Prontosil ampuls are only employed intramuscularly, 2–3 injections per day may be given which can be followed by 1–2 tablets three times a day.—*Pharm. Weekblad*, 73 (1936), 1188. (E. H. W.)

Racetonin Tablets (F. J. Kwizda, Korneuburg) contain in each 0.05 Gm. of synthetic ephedrine. The packages contain 10 or 20 tablets.—*Pharm. Presse*, 41 (1936), 426. (M. F. W. D.)

S. U. P. 468 (Anglo-French Drug Co., New York) is a combination of *p*-benzoyl-*p*-aminobenzoyl-1-naphthylamine-4,6,8-sodium sulfonate. It is administered intramuscularly or intravenously in all forms of streptococcal infections such as erysipelas, rheumatic fever and puerperal sepsis. It is marketed in 1-cc. ampuls (0.001, 0.002 and 0.003 Gm.; 6 to the package).—*Am. Drug.*, 94, No. 5 (1936), 52. (E. V. S.)

Sympatol Liquid (C. H. Boehringer Söhne A. G., Nieder-Ingelheim) consists of a 10% solution

of *p*-methylaminoethanolphenoltartrate in packages of 10, 25 and 100 Gm.—*Pharm. Post.*, 69 (1936), 418. (H. M. B.)

Syntarsol Ampuls (La Sintetica, A. G., Chiasso, Switzerland) contain a 26.10% solution of the diethylaminoethanol salt of 3-acetylamino-4-oxyphenylarsenic acid. They are put up in packages of 10 ampuls of either 1 or 5 cc.—*Pharm. Presse*, 41 (1936), 425. (M. F. W. D.)

Valisan (Schering), for general physical and mental exhaustion, is the borneol ester of bromisovalerianic acid. The dose is 2 to 3 perles several times a day some time after meals; to induce sleep, 3 perles half an hour before retiring. It is packed in boxes of 30 perles (3.75 gr. each).—*Australas. J. Pharm.*, 17 (1936), 865. (E. V. S.)

SPECIALTIES

Activanad (Nordmark Chemical Works, Inc.), a biologic tonic, contains liver extract, glycine, cerebrotrate (brain hormone), hematoporphyrin, salts of copper, iron, manganese and vanadium, caffeine, coca, cinchona and stabilized vitamin C. It is used in physical and nervous exhaustion, loss of appetite, sluggish metabolism, anemia due to loss of blood, easy fatigue, deficient mental concentration and wasting from physical or mental over-exertion. Activanad is supplied in bottles of 16 oz.—*Drug. Circ.*, 80, No. 11 (1936), 82. (E. V. S.)

Adagol (Winthrop Chemical Co.) is an accurately standardized concentrate of both vitamin A and D derived from the livers of edible fish. It contains not less than 40,000 units of vitamin A and 4,000 units of vitamin D per gram. It is indicated in all conditions in which cod liver oil has proved of value, such as rickets, tetany, osteomalacia and malnutrition. The prophylaxis dose is 10 drops, expectant and nursing mothers, 20 drops or more, and curative dose, 15–20 drops daily. Adagol is marketed in 5-cc. bottles with standardized dropper.—*Am. Drug.*, 94, No. 4 (1936), 68. (E. V. S.)

Adsperlen (Endocrines Ltd., Watford, England) is a liquid preparation containing extract of adrenal cortex with spleen and thyroid. It is used to combat infection and raises low blood pressure rapidly. The dose is 10 drops three times a day; marketed in 25-cc. vials.—*Australas. J. Pharm.*, 17 (1936), 864. (E. V. S.)

Akrotherm (Desitinwerk Carl Klinke) contains organ extracts, the active principles of which are closely related to histamine, acetylcholine and adenosine phosphoric acid and is intended to stimulate distribution of blood through the skin.—F. ZERNIK. *Mfg. Chemist*, 7 (1936), 330. (C. R. A.)

Allanturan (Thorraduranwerk A. G.), a new wound remedy, is a thorraduran ointment containing 1% allantoin and is described as containing 0.125 microgram of radium per kilo in the form of radioactive ores.—*Mfg. Chemist*, 7 (1936), 330. (C. R. A.)

Androstine (Ciba Co., Inc.) is the total testicular extract composed of two fractions of the male genital glands; the hydrosoluble which contains active principles of the spermatic gland and liposoluble extracted from the interstitial gland. It is used in testicular insufficiency, impotence, infantilism and premature senility. The extract is marketed as tablets equivalent to 8 Gm. of entire fresh gland (bottles of 30 and 100); solution in 1.5-cc. ampuls (Ampul A containing hydrosoluble principles, Ampul B liposoluble principles) (box of 3 ampuls each).—*Am. Drug.*, 94, No. 4 (1936), 88. (E. V. S.)

Apicur "Roche" is a stable, sterile 1.5% solution of bee-toxin purified by a special method. It is used as an intracutaneous injection for muscular rheumatism, neuralgia, etc.—*Pharm. Weekblad*, 73 (1936), 1186. (E. H. W.)

Arantil ("Bayer"), recommended as an anodyne, contains pyramidone and novalgin in addition to a molecular compound of pyramidone and diethylallyl acetamide and is marketed in the form of coated tasteless pills.—*Mfg. Chemist*, 7 (1936), 330. (C. R. A.)

Benzide (Wm. S. Merrell Co.) is a 10% ointment of dibenzoyl disulfide plus a small quantity of hydroxyquinoline sulfate. It is found to be superior to benzoyl peroxide for the treatment of pruritis. It is supplied in 1-ounce tubes.—*Am. Drug.*, 94, No. 4 (1936), 90. (E. V. S.)

Binaca is the name of a toothpaste prepared by the cosmetic division of Ciba, Société chimique à Bâle. It is prepared with sodium sulforicinoleate, a compound which on account of its great emulsifying properties possesses extraordinary cleansing properties. The paste has therefore particular properties for removing deposits on the teeth, disinfection, etc.—*Pharm. Weekblad*, 73 (1936), 1186. (E. H. W.)

Binæmon Powder (Degewop, A. G., Berlin) contains powdered hog stomach and powdered hog liver in equal parts. The packages contain 150 Gm.—*Pharm. Presse*, 41 (1936), 426. (M. F. W. D.)

Bi-Na-Gluconate (Drug Products Co., Inc.) contains in each cc. colloidal bismuth sodium gluconate 100 mg. representing elemental bismuth 25 mg. and benzyl alcohol 2% in deærated triple distilled water buffered with sodium citrate. It is practically painless when injected intragluteally $1^1/_2''$ to 2″ deep in the upper inner quadrant in the treatment of syphilis. It is supplied in 60-cc. hyposols.—*Drug. Circ.*, 80, No. 11 (1936), 34. (E. V. S.)

Bis-Mu-Lac (Pitman-Moore Co.) is a defatted, concentrated sterile milk containing 1% of manganese butyrate. It is indicated in all sorts of chronic infections including gonorrhea and its many chronic and subacute manifestations, in stubborn purulent infections, unresolved phlegmon, sepsis, arthritis, inflammations of the eye, dermatological conditions, and to relieve the coughing of bronchitis and pertussis. The maximum dose is 1 cc. intramuscularly. It is supplied in 1-cc. ampuls packed 6, 25 and 100.—*Am. Drug.*, 94, No. 4 (1936), 94. (E. V. S.)

Bromochine "Katwijk" (chemische fabriek Katwijk) is a simple combination of decoction of cinchona bark 245 Gm. with 20 Gm. of sodium bromide; thus an old tried and proved remedy, which is often dispensed in the pharmacy as a general sedative and tonic is now obtainable in bottles of 260 cc. Dose, evenings 1–2 spoonfuls or 3 times a day, one tablespoonful.—*Pharm. Weekblad*, 73 (1936), 1186. (E. H. W.)

Cal-C-Malt "Roche" is a vitamin C preparation containing in two heaping teaspoonsful 50 mg. of the vitamin equivalent to $2^1/_2$–3 oz. of fresh orange juice and $7^1/_2$ gr. of dibasic calcium phosphate together with effective amounts of vitamins B_1 and B_2, cane and malt sugars, cocoa, and the non-fatty food elements of milk. Analysis also shows the presence of iron, phosphorus, magnesium and other valuable mineral salts. It is used in the treatment of latent scurvy and prescorbutic states; useful as a prophylactic against susceptibility to infection, dental caries, gingivitis, pyorrhea, allergic manifestations in the skin or intestinal tract, disturbed calcium metabolism and blood disorders traceable to imperfect maturation of blood elements.—*Am. Drug.*, 94, No. 4 (1936), 94. (E. V. S.)

Camphedrin (Pitman-Moore Co.) contains ephedrine sulfate 2 gr., cinchonine sulfate 2 gr., fluidextract belladonna 1 min., camphor 2 gr. and aromatics in each fluidounce of syrup. It is indicated in bronchial asthma for preventing the acute attacks, in sensitization to foreign proteins for relieving the symptoms, in pertussis and in beginning respiratory infections. The adult dose is 1 to 2 teaspoonsful, dilution with hot water is often preferable. It is supplied in pints or gallons.—*Am. Drug.*, 94, No. 4 (1936), 96. (E. V. S.)

Cancerex Emulsion (Altorost Co., Rostock) is put up in packages of 100 Gm. containing zinc sulfide, copper acetate, lead nitrate, arsenious acid and water.—*Pharm. Presse*, 41 (1936), 426. (M. F. W. D.)

Candaseptic (Clay and Abraham Ltd., Liverpool), for use as a mouth wash in pyorrhea, sore throat, tonsilitis, or general antiseptic, contains *p*-chloro-*m*-cresol, green soap, menthol and aromatic flavoring. It is marketed in 4-oz. cap bottles.—*Australas. J. Pharm.*, 17 (1936), 864. (E. V. S.)

Carbarom Tablets (Chem. Werke vorm. H. & E. Albert A.-G., Wiesbaden-Biebrich) contain a combination of synthetic aluminum silicate and highly active carbon. They are used for hyperacidity, ventricular and duodenal ulcers, dyspepsia, flatulence, etc.—*Pharm. Zentralh.*, 77 (1936), 637. (E. V. S.)

Carbovit (chemische fabriek Naarden) is an active, adsorbent carbon which is prepared from vegetable substances and used in stomach and intestinal affections, acid stomach, "heart burn," etc. It is sold in dragee form in sliding-boxes containing 35 pieces or in aluminium tubes containing 25 tablets.—*Pharm. Weekblad*, 73 (1936), 1186. (E. H. W.)

Cejakol Ampuls (Altorost Co., Rostock) are put up in packages of 3 ampuls of 5 cc., containing in each 3% cerium iodate, 1% monomethyl-disodium arsenate, 5% of guaiacolcacodylate, formic acid and double distilled water.—*Pharm. Presse*, 41 (1936), 426. (M. F. W. D.)

Cejodyl Ampuls (Altorost Co., Rostock) contain 0.5% monomethyl-disodium arsenate and 3% cerium iodate. **Cejodyl Cacodylate Ampuls** contain 3% cerium and 1% sodium cacodylate. **Cejodyl Terpene Ampuls** contain 0.75% monomethyl-disodium arsenate, 3% cerium iodate and

0.1% terpene. They are prepared with double distilled water and supplied in packages of 3 ampuls of 5 cc. each.—*Pharm. Presse*, 41 (1936), 426. (M. F. W. D.)

Cholmodin Tablets (Riedel-de Haen, Inc.) contain in each deoxycholic acid 0.1 Gm. and extract aloes 0.05 Gm. It is indicated in acute constipation in doses of 1 to 2 tablets before retiring; in chronic constipation, 2 tablets two or three times a day after meals. Cholmodin is marketed in boxes of 50 sugar-coated tablets in sanitape form.—*Am. Drug.*, 94, No. 4 (1936), 100. (E. V. S.)

Citroferrin (Bogart Chemical Co.) is an effervescent form of iron containing 10 grains of iron and ammonium citrate per teaspoonful. It is indicated in secondary anemias, chlorosis and in all conditions of iron deficiency; also in anemias when systemic alkalinization is a desirable adjunct, especially suitable for children.—*Am. Drug.*, 94, No. 4 (1936), 100. (E. V. S.)

Convallan (chemische fabriek Goedecke & Co.) contains the collective glucosides from *Convallaria majalis*. It is used as a diuretic in heart disease.—*Pharm. Weekblad*, 73 (1936), 1186. (E. H. W.)

Corrigast Tablets (Chem. Fabrik Flörsheim, vorm. Dr. H. Noerdlinger A.-G., Flörsheim a. M.) are composed of a mixture of leaves of peppermint and *Mentha crispus*, of fruits of anise, star anise, caraway, coriander and fennel, of herbs of absinthium and marjoranum, and rhizomes of calamus and ginger. They are used for hyperacidity, stomachic and intestinal neurosis, obstipation, flatulence, nervous dyspepsia, etc.—*Pharm. Zentralh.*, 77 (1936), 637. (E. V. S.)

Cos (Avon-fabriek, Hamburg) is a cosmetic containing vegetable oils and having a pleasant odor. It serves as an external medication, which on the one hand destroys effluvia and unpleasant odors and on the other hand serves to lessen the sensation of indisposition and pain during the period of menstruation. It is applied by adding about 15 drops to each dressing renewal.—*Pharm. Weekblad.*, 73 (1936), 1186. (E. H. W.)

Delbiase (Phargene Ltd., London W.1) tablets contain in each 0.61 Gm. of magnesium halides. The dose is 2 to 4 tablets before breakfast for nervous debility, disorders of the digestive system, skin affections and precancerous conditions. They are packed 48 to the box.—*Australas. J. Pharm.*, 17 (1936), 631. (E. V. S.)

Diplosal Salve (C. F. Boehringer & Sons, Mannheim) is sold in tubes of 20 Gm. containing 5% of salicylosalicylic acid, camphor, menthol and tegin.—*Pharm. Presse*, 41 (1936), 426. (M. F. W. D.)

Dontalol is an aromatized solution of a high molecular aliphatic diammonium base introduced by the I. G. Farbenindustrie for use in dentistry. It is intended for use in the care of false teeth, as an oral disinfectant and for regular mouth hygiene.—*Mfg. Chemist*, 7 (1936), 330. (C. R. A.)

Dormaphen Capsules (Calco Chemical Co.) contain in each 45 mg. magnesium phenobarbital and 162 mg. phenacetin. They are used wherever hypnosis and analgesia are required with minimum after-effects. The dose is 1 to 3 capsules with a hot liquid one or two hours before hypnotic effect is desired. The green capsules are supplied in bottles of 50.—*Am. Drug.*, 94, No. 4 (1936), 108. (E. V. S.)

Embran (Sächsiches Serumwerk A. G.) is a highly concentrated extract of skeletal muscles applied intravenously, intramuscularly or internally for the treatment of circulatory weakness.—F. ZERNIK. *Mfg. Chemist*, 7 (1936), 330. (C. R. A.)

Ephedan (Clay and Abraham Ltd.), for asthma and all respiratory affections, contains ephedrine hydrochloride, theobromine, acetylsalicylic acid and calcium gluconate. It is packed 12 powders to the carton. The dose for the adult is one or two powders with water when necessary (not more than 4 in 24 hours); children 1/4 to 1/2 a powder.—*Australas. J. Pharm.*, 17 (1936), 864. (E. V. S.)

Evicyl (Winthrop Chemical Co., Inc.) is a combination of Evipal (*N*-methyl-cyclohexenylmethylmalonylurea) 1 gr. and acetylsalicylic acid 7.5 gr. in tablet form. It is indicated for use in headache, neuralgia, migraine, dysmenorrhea, climacteric disorders, lumbago, rheumatism, acute infections, insomnia caused by pain and preoperative and postoperative medication in surgery and dentistry. It is supplied in boxes of 10 and 100 tablets sanitaped.—*Drug. Circ.*, 80, No. 11 (1936), 34. (E. V. S.)

Fliren ("Bayer"), a new suprarenal gland preparation in the form of pills, equivalent to 3 Gm. of fresh gland, and coated with a colorless varnish which only dissolves after reaching the

small intestine, is indicated in all cases of internal secretory disturbances bound up with the suprarenal gland and as a general hormone restorative.—F. ZERNIK. *Mfg. Chemist*, 7 (1936), 330. (C. R. A.)

Glucophylline Tablets (Abbott Lab.) contain in each theophylline 1.18 gr. and methyl glucamine 1.6 gr. It is indicated for use in coronary disease and cardiac decompensation. It is marketed in vials of 40 and bottles of 100, 1,000 and bulk.—*Am. Drug.*, 94, No. 5 (1936), 60. (E. V. S.)

Helisen-Test-Package (I. G. Farbenindustrie, Behring) contains 1 ampul with 1 cc. Helisen 1:1,000, 1 ampul with 1 cc. Helisen 1:100 and one ampul with 1 cc. physiological salt solution. It is used in the diagnosis of hay fever for which a very small quantity (0.05 cc. of the 1:1,000 solution) is injected.—*Pharm. Weekblad*, 73 (1936), 1187. (E. H. W.)

Hellgit (N. Hellmann, chem.-pharm. Präparate, Breslay), for gout, rheumatism, ischias and similar conditions, is prepared from iodine, salicylic acid, camphor, chloroform, methyl salicylate, ethereal oil and alcohol. **Hellgit-Balsam** is a mixture of salicylic acid, camphor, chloroform, menthol, methyl salicylate, ethereal oil and soap in an ointment base. It is marketed in tubes.—*Pharm. Zentralh.*, 77 (1936), 637. (E. V. S.)

Helmofix (Chem. Fabrik Marienfelde G. m. b. H.) consists of gelatin capsules containing synthetic paracymene and thymol as anthelmintics together with kamala and castor oil as purgatives. The effect is produced 4 to 5 hours after taking 3 to 4 capsules.—F. ZERNIK. *Mfg. Chemist*, 7 (1936), 330. (C. R. A.)

Hemosite (Kelvin Chemical Co., Sydney), for anemias, is a preparation of liver extract, iron and ammonium citrate and copper sulfate. The average dose is three tablets three times a day. They are packed in bottles of 100 7-grain tablets.—*Australas. J. Pharm.*, 17 (1936), 631. (E. V. S.)

Hepron (Evans, Sons, Lescher and Webb Ltd., Liverpool) is a preparation containing Hepatex liver extract, iron, glycerophosphates and vitamins B_1, B_2 and C. It is used in the treatment of secondary anemias, convalescence and general debility in children and adults. The adult dose is 2 to 4 teaspooonsful once or twice daily and half this quantity for children. It is marketed in 6- and 12-oz. bottles.—*Australas. J. Pharm.*, 17 (1936), 864. (E. V. S.)

Heptogene (Brobasic Products, Inc.) is a combination of iron albuminate with copper catalyst, calcium gluconate and liver concentrate. It is used for fatigue, anemia and all forms of secondary anemia. Heptogene is marketed as triple-coated 5-grain tablets in bottles of 50.—*Am. Drug.*, 94, No. 5 (1936), 62. (E. V. S.)

Hipanthycal Tropels (Wyleys Ltd.) contain pancreas, thyroid, ammonium and sodium hippurates with calf liver substance. They are used for hyperpiesis, arteriosclerosis and reduce blood pressure; marketed in bottles of 100, 250 and 1,000.—*Australas. J. Pharm.*, 17 (1936), 864. (E. V. S.)

Iodochlorol (G. D. Searle & Co.) is an iodized oil containing 33.2% of iodine and 9.27% of chlorine in chemical combination with glyceryl esters of the fatty acids of peanut oil. It is especially adapted for use as a radiopaque medium in X-ray diagnosis. It is also of value as a slowly absorbed substitute for ordinary iodides, when a gradual, long-sustained iodide action is desired. **Iodochlorol Oil** is marketed in 20-cc. bottles and **Iodochloral Emulsion** in 20-cc. bottles containing 25% iodine and 7% chlorine.—*Am. Drug.*, 94, No. 5 (1936), 62. (E. V. S.)

Iotanagen (G. D. Searle & Co.) is a combination of iodine, tannic acid, extract of witch-hazel and extract of stramonium in glycerin. It is used in the treatment of infections of the nose and throat, as a vaginal tamponade and as a rectal injection in hemorrhoids. Iotanagen is also dispensed with 5% of phenol when it is useful in the treatment of pruritis.—*Am. Drug.*, 94, No. 5 (1936), 64. (E. V. S.)

Katalysis Ampuls (Dr. Henning, Berlin-Tempelhof) contain in 5 cc. 0.01 Gm. thionin, glycocol and sodium chloride. They come in packages of 5 ampuls of 5 or 10 cc.—*Pharm. Presse*, 41 (1936), 426. (M. F. W. D.)

Lactalumina (Crookes Lab., Inc., New York) is a colloidal aluminum hydroxide containing 4% of the hydroxide. It is pleasantly flavored and easily taken; exerts an efficient antacid effect without evolution of gas forming a translucent gel which, besides protecting the delicate walls of the stomach, efficiently removes excess acid. Lactalumina shows no evidence of toxic action on

kidneys or other organs and is indicated for use in the treatment of peptic ulcer and hyperacid states. It is supplied in bottles of 8 and 16 ounces.—*Drug. Circ.*, 80, No. 11 (1936), 35. (E. V. S.)

Laxysat (Joh. Bürger Ysatfabriek, Wernigerode) is a liquid preparation obtained by dialysis from the ripe berries of Rhamnus to which a small quantity of aloe has been added.—*Pharm. Weekblad*, 73 (1936), 1187. (E. H. W.)

Manetol ("Bayer") is a novel type of styptic agent consisting of specific substances from the spinal marrow which reduce the clotting time of blood, but only exercise an indirect influence on the actual clotting process. The contents of 1 ampul are dissolved in 1–2 cc. of water before use and 1–3 ampuls are administered over a period of 24 hours in the injection treatment of bleeding from all causes, but primarily of hemorrhages of the digestive passages, kidneys, bladder and lungs.—*Mfg. Chemist*, 7 (1936), 330. (C. R. A.)

New Remedies. The following are new products that have made their appearance **Cardatone,** an aqueous solution containing 15% sodium camphosulphonate; **Cavolysin,** active potent hormonic substances and internal secretions of those glands which play a part in metabolic processes; **Optrex,** used in the treatment of conjunctivitis and corneal ulcers; **Urazine,** a solvent of uric acid, indicated in rheumatism, gout, etc.—*Pharm. J.*, 137 (1936), 292. (W. B. B.)

New Remedies. Several new remedies that have appeared on the market recently include **Buccaline,** vaccine tablets used for immunization against colds and influenza; **Magnesium Trisilicate,** used for neutralization of gastric acidity; **Ryzamin-B,** the concentrated and purified vitamin-containing fraction of rice polishings; **Serocalcin,** used in the prevention and treatment of colds.—*Pharm. J.*, 137 (1936), 316. (W. B. B.)

Norit (Chas. Zimmermann and Co., Ltd., London) is an 85% ashless vegetable charcoal, containing under 5% mineral matter and about 10% moisture, in high activation and extremely fine powder, from which the tablets are prepared by addition of sugar and water. It is used for gastric and intestinal disorders, for protection against respiratory infections, gastric and duodenal: ulcer, infantile diarrhœa, typhoid fever, cholera, dysentery, food and chemical poisoning. The dose is one to three tablets two or three times daily, in emergency up to 10 tablets at a time. It is packed in sealed tubes of 20 tablets.—*Australas. J. Pharm.*, 17 (1936), 864. (E. V. S.)

Novalgin-Chinin (I. G. Farbenindustrie Bayer) is marketed in dragées which contain 0.15 Gm. of novalgine (sodium phenyldimethylpyrazolonmethylaminomethanesulfonic acid) and 0.1 Gm. of the quinine salt of this acid. Besides the analgesic action of the novalgine this preparation also exhibits a sedative action. Quinine reduces the fever temperature but in this preparation the temperature lowering takes place through a peripheral lessening of the development of temperature raising. These dragées are used in grippe and in affections following colds such as rheumatism and neuralgia. Dose, 1–2 dragées 3 times a day.—*Pharm. Weekblad*, 73 (1936), 1187. (E. H. W.)

Oladol (Abbott Lab.) is a blend of natural, refined fish liver oils containing not less than 55,000 vitamin A and 5,500 vitamin D units per gram of oil. It is used as a preventative aid in disorders arising from dietary deficiencies of these vitamins and for the treatment of all such disorders, whether moderate or severe. Oladol is supplied as capsules in boxes of 25, 50 or 100.—*Drug. Circ.*, 80, No. 11 (1936), 34. (E. V. S.)

Olesumman (Dr. F. Heise G. m. b. H., Berlin-Karlshorst), a liniment for muscular pains, contains ethereal oil 15, spirits 15, ammonia water 20 and soap solution 50.—*Pharm. Zentralh.*, 77 (1936), 638. (E. V. S.)

Opillana (Pitman-Moore Co.) contains opium 2 gr., Tr. Cocillana 4 min., Tr. Euphorbia 180 min., Syr. Squill Comp. 24 min., menthol and aromatics in each fluidounce. It is an effective sugar-free formula especially indicated in the treatment of throat conditions in diabetics and in all other cases where the absence of sugar might be an advantage. The adult dose is 1/2 to 2 teaspoonsful every three hours. Opillana is marketed in pints and gallons.—*Am. Drug.*, 94, No. 5 (1936), 74. (E. V. S.)

Osmaron purissium ("Bayer") consists of "fat and water-soluble acetates of high molecular fatty amines." Osmaron-milk fat is a 0.5% solution in white vaseline which kills the germs of udder diseases in a few minutes.—*Mfg. Chemist*, 7 (1936), 330. (C. R. A.)

Parat Wafers (Altorost Co., Rostock) are put up in packages of 10 pieces, containing parenchymatol and zinc sulfide.—*Pharm. Presse*, 41 (1936), 426. (M. F. W. D.)

Pepcapsules (Altorost Co., Rostock) contain parenchymatol, silver nucleinate, medicinal

yeast, pepsin hydrochloride and silicate. They are put up in packages of 5 capsules.—*Pharm. Presse*, 41 (1936), 426. (M. F. W. D.)

Peprods, Elastic (Altorost Co., Rostock) are sold in packages of 10 pieces, containing parenchymatol, silver nucleinate, sodium silicate, gelatin, glycerin and water.—*Pharm. Presse*, 41 (1936), 426. (M. F. W. D.)

Peremesin (Heyden) is a colloidal cerium oxalate, marketed in tablets containing 50 mg. of the compound and no narcotics. They are employed in sea-sickness, the sickness of pregnancy and as antiemetics.—*Pharm. Weekblad*, 73 (1936), 1188. (E. H. W.)

Phensal Tablets (Pitman-Moore Co.) contain in each acetophenetidin 2 gr., acetylsalicylic acid 4 gr., tincture gelsemium 3 mins. and caffeine 1/4 gr. They are used in relieving pain in headaches, neuralgia, colds, influenza and pain of obscure origin. The tablets are coated gray and supplied in bottles of 100 and 500.—*Drug. Circ.*, 80, No. 11 (1936), 34. (E. V. S.)

Recresal (Coates and Cooper Ltd., London) is a calcined sodium dihydro-*o*-phosphate. It is used in physical and psychic states of exhaustion and constitutional debility. The dose is 1 to 3 tablets twice daily, 15 minutes after breakfast and midday meal. They are packed in tins of 30 and 60 tablets.—*Australas. J. Pharm.*, 17 (1936), 865. (E. V. S.)

Scopolamine-Eukodal-Ephetonin Ampuls (E. Merck, Darmstadt) contain in each 0.0005 Gm. scopolamine hydrobromide, 0.01 Gm. eukodal, 0.025 Gm. ephetonin and 1 cc. distilled water. The packages contain 10 ampuls of 1.10 cc.—*Pharm. Presse*, 41 (1936), 426. (M. F. W. D.)

Spirobismol Suppositories (Chem. pharmazeutische Fabrik Bad Homburg A. G.) contain in each 0.66 gr. spirobismol soluble (equivalent to 0.02 gr. bismuth, 0.02 gr. quinine and 0.05 gr. iodine) are recommended for the rectal treatment of angina.—*Mfg. Chemist*, 7 (1936), 330. (C. R. A.)

Stanion (Couturieux, Paris) is a colloidal tin preparation for boils, carbuncles and staphylococcal infections. The dose is 4–10 tablets daily which are packed in bottles of 50.—*Australas. J. Pharm.*, 17 (1936), 631. (E. V. S.)

Staphar (Bayer Products Ltd.) is a mixed staphylococcal vaccine for staphylococcal infections, ulcers and carbuncles. The dose is 0.5–0.75 cc. injected subcutaneously or intramuscularly. The 1-cc. ampuls are packed 3 and 10.—*Australas. J. Pharm.*, 17 (1936), 631. (E. V. S.)

Sudex Salve (Eggochemia, Dr. Patzau, Vienna, 19th dist.) contains irradiated zinc metal, colloidal aluminum hydroxide, zinc oxide, talc and vaseline.—*Pharm. Presse*, 41 (1936), 425. (M. F. W. D.)

Tanna-Flavine (British Drug Houses Ltd.), for treatment of burns and scalds, is a tannic acid and acriflavine preparation. It is marketed in single tubes and boxes of six tubes; each contains enough powder to make 1/2 pint solution containing 2.5% tannic acid and a suitable proportion of acriflavine; also as a jelly in metal tubes containing 1 1/2 oz.—*Australas. J. Pharm.*, 17 (1936), 865. (E. V. S.)

Theal Tablets (C. F. Boehringer & Sons, Mannheim) are put up in packages of 10 tablets containing in each 0.10 Gm. of pyrazolon-dimethylaminophenyldimethyl, phenacetin, theophylline and saponin.—*Pharm. Presse*, 41 (1936), 426. (M. F. W. D.)

Tonicum Katwijk (alcohol free) (chemische fabriek Katwijk) contains 200 Gm. of liquid extract of cola, 200 Gm. of sucrose, 150 Gm. of glycerin, 2 Gm. of manganous saccharate, 10 Gm. of tincture of nux vomica, 1 Gm. methylarsenate and 37 Gm. of sodium biphosphate per liter. Salicylic acid (400 mg.) is added as a preservative. This combination of strychnine and arsenic brings about the tonic action without the less desirable stimulant action of the alcohol. It is therefore useful for children, lying-in women and other persons sensitive to alcohol. Dose, 1–2 teaspoonsful three times a day.—*Pharm. Weekblad*, 73 (1936), 1188. (E. H. W.)

Torantil (I. G. Farbenindustrie Bayer) is a substance obtained from the mucous membrane of intestines having the properties of an albumen and giving the commonly used albumen reactions. According to the allergic theories of Pirquet a toxin originates through the inter-reaction between an intrusive antigen and the reacting cell and is the cause of the apparent symptoms. This toxin can produce a number of syndromes, such as eczema, urticaria, hay fever, etc., and is, as far as its pharmacologic characteristics are concerned, comparable to histamine. Substances have been demonstrated in the mucous membrane of the small and large intestine which specifically decompose histamine and which are also the cause of preventing allergic action after injection of the antigen. Torantil contains these substances in a form for enteric or parenteric administra-

tion. It is a white stable powder; forming in water an opalescent solution. It is marketed in ampuls containing the dry powder (with ampul containing 2 cc. of sterile water) which compare to 1 unit of histamine antitoxin. Dragées containing 5 units are also marketed.—*Pharm. Weekblad*, 73 (1936), 1188. (E. H. W.)

Trachocid Ampuls (Austrian Serum G. m. b. H.) contain in ampul T, animal venom (obtained from either bees or snakes) and in ampul R, adrenaline, acoin, novocaine and distilled water. The package contains 5 ampuls of both T and R.—*Pharm. Presse*, 41 (1936), 426. (M. F. W. D.)

Vamoil Ampuls (Chatelain's Lab., Paris; George Wallau, New York) contain in each 0.00018 Gm. of colloidal mercury, 0.0006 Gm. of colloidal silver, 0.0003 Gm. of colloidal gold and 0.00015 Gm. of colloidal arsenic. It is administered by intramuscular injections in the treatment of cutaneous and specific affections. It is marketed in 3-cc. ampuls.—*Am. Drug.*, 94, No. 5 (1936), 126. (E. V. S.)

Veganin Tablets (Warner) contain in each acetylsalicylic acid 0.25 Gm., phenacetin 0.25 Gm., and codeine phosphate 0.01 Gm. They are used as an analgesic and antipyretic in influenza dysmenorrhea, neuralgia, migraine, articular and muscular rheumatism, sciatica, lumbago, etc. The dose is 1 or 2 tablets as required. They are packed in tubes of 10 and 20, and boxes of 100.—*Australas. J. Pharm.*, 17 (1936), 865. (E. V. S.)

Ventræmon (Organon Lab., London) is made from hogs' whole fresh stomach wall containing the (intrinsic factor) lacking in true pernicious anemia, also muscle tissue of the (intrinsic factor) for the specific ferment to act upon. It is used in pernicious anemia, iodopathic steatorrhea, sprue, celiac diseases, intestinal infantilism, etc. The dose is 10 Gm. of powder per million deficiency of erythrocytes and normal maintenance requires 10 Gm. daily, *i. e.*, one compressed tablet or 5 teaspoonsful of the powder.—*Australas. J. Pharm.*, 17 (1936), 977. (E. V. S.)

Viozin Ointment (Glaxo Lab., Ltd., Greenford, Mdlsx) is a 10% calciferol in peanut oil with soft and hard paraffin, lanolin, zinc oxide and balsam of peru. It is used as a dressing in the local treatment of varicose ulcer, also chilblains, fistulas, wounds, indolent ulcers and chronic sores, cracks and abrasions. It is packed in 2-oz. and 16-oz. containers.—*Australas. J. Pharm.*, 17 (1936), 977. (E. V. S.)

Viscovasin Solution (Degen and Düren, Rheinland) contains the active material from *Viscum album*, *Cratægus oxyacantha* and *Sedum acre* in packages of 10 cc. **Viscovasin Tablets** are also supplied, in packages of 12.—*Pharm. Presse*, 41 (1936), 425. (M. F. W. D.)

Wyatt-Hicks Streptococcus Antigen (John Wyeth & Brother, Inc.) is a suspension of killed streptococci in cultural filtrate containing 500 million organisms per cc. It is used in the treatment of chronic infectious arthritis. The dose is 0.1 cc. intravenously, gradually increased, at intervals of 5 to 6 days, up to 1.8 cc. It is supplied in 10-cc. vials, diaphragm top.—*Drug. Circ.*, 80, No. 11 (1936), 35. (E. V. S.)

Zimmer's Cough Syrup (Vereinigte Chininfabriken Zimmer and Co.) is described as containing, in sweetened solution, decoctions of *Artemisia abrotanum* and *Pulmonaria officinalis* in combination with the expectorant, methyl esculetin triethanolamine (about 0.5%) and the sedative, valeryl amide (about 1.5%).—*Mfg. Chemist*, 7 (1936), 330. (C. R. A.)

BACTERIOLOGY

Antitoxin—Production of. A living animal is injected with a concentrated toxin material intermingled with a repository base consisting essentially of lanolin, whereby the antitoxin is produced in the animal.—STANLEY D. BEARD, assignor to LEDERLE LABORATORIES, INC. U. S. pat. 2,057,623, Oct. 13, 1936. (A. P.-C.)

Bacterial Spores—Resistance of, to the Bactericidal Effect of Moist Heat at 80° C. The poor lethal efficiency of tyndallization in deliberate spore contamination is confirmed, but in non-nutrient fluids and in the presence of phenol, tyndallization is more efficient than a like period of continuous heating and therefore does not entirely depend for its lethal effect on spores on their germination. Incubation at 37° C. may adversely affect the tyndallization of highly nutrient solutions. The addition of 0.5% of phenol to physiological saline, 5% glucose solution or distilled water renders them capable of being tyndallized successfully even in the presence of numerous spores. In peptone water, milk or nutrient broth, phenol is less efficient and, by preventing germination in these media, it may actually reduce the efficiency of the tyndallization. The pres-

ence of small amounts of hydrochloric acid, of brilliant green or of formaldehyde, renders treatment by heat at 80° C. for 3 hours a practically certain sterilization process. Brilliant green is perhaps the most generally promising of these substances, although in some solutions heat may cause bleaching or precipitation. Neither of these changes appears to occur in 5% glucose solution at 80° C. and it is possible that emergency sterilization processes of absolute reliability without preliminary aseptic precautions could be laid down for medicaments dissolved in brilliant green glucose solution. Stable medicaments might be steamed for a given time and unstable medicaments maintained at 80° C. for a given period.—C. E. COULTHARD. *Quart. J. Pharm. Pharmacol.*, 9 (1936), 174–187. (S. W. G.)

Bile—Effect of the Viability and General Biology of Intestinal Pathogenic Bacteria. The purpose of this investigation was threefold: (1) to elucidate some of the problems bearing on bacterial carriers; (2) to investigate the viability of pathogenic intestinal bacteria in bile as a practical method for the preservation of pure cultures for a long time without transplanting; (3) what changes in biological properties do these cultures undergo when living in bile and transplanted not by plating but in a way that is customary in maintaining stock cultures. The cultures used were typical strains of *Bacillus coli*, *B. paratyphosus* A and B, *B. typhosus*, and *B. dysenteriæ* Shiga-Kruse, Y, and Flexner. The pure cultures in peptone water were used as seed from which test-tubes containing bile in concentrations ranging from 5 to 50% were inoculated. The diluent of the bile was salt solution. The inoculated bile cultures were kept in the dark at room temperature (av. 28° C.) throughout a whole year and tested for viability twice a month. No evidence was found that the degree of dilution with salt water had any effect on the viability of the bacteria in bile. At 14° C. they survived much longer than at 37° C. Optimum p_H values were determined for 20% bile in salt solution. This proved to range from 6.8 to 7.6. *B. coli* and *B. paratyphosus* B showed a remarkable tolerance to the various degrees of acidity and survived under such conditions throughout the entire test, 93 days. *B. typhosus* lived in bile at p_H 7.2 and 7.6 for 56 days and at p_H 6.8 only 49 days. *B. paratyphosus* A's optimum proved to be toward the acid end for it survived 74 days at p_H 6.8, for 93 days at p_H 7.2 and only 14 days at p_H 7.6. The dysentery strains showed low viability in bile in this case, the best being that of dysentery Y at p_H 7.2. Fermentation tests were made with bacteria that had been kept in bile as long as a year. The majority preserved their fermentative characteristics for a long time. The authors conclude that *B. coli*, *B. typhosus*, *B. paratyphosus* B and A, may survive in bile diluted with salt solution for a year or more without being transplanted; *B. dysenteriæ* only a short time and *B. paradysentericus* somewhat longer. After the bacteria have been kept in bile for a long time and shortly before they die out, the entire cultures undergo certain changes which are of a degenerative character. They are ephemeral and easily reparable changes caused by lowered vitality of the bacteria concerned.—O. SCHÖBL, MINORU NUKADA and TOSHIKO KOMATSU. *Philippine J. Sci.*, 59 (1936), 149. (P. A. F.)

Diphtheria Toxoid—Antigenic Value of Various Preparations of. A report on method of immunization of nurses at Cook County Hospital. Since commercial toxoid seemed weak, toxoid was obtained from Pasteur Institute for comparison and doses of 0.25, 0.5, 1.0 and 2.0 cc. were given at weekly intervals. Retests were made two weeks after the last dose. Results indicate that commercial toxoid is lower in antigenic value than the French preparation, hence better control methods are recommended.—CLAIRE E. HEALEY. *J. Am. Med. Assoc.*, 105 (1935), 1182. (M. R. T.)

Enterococci—Resistance of. The enterococcus (*Streptococcus fecalis*, *Micrococcus ovalis* and, possibly, *Streptococcus lactis*) was resistant to a number of injurious agents. Of 75 strains tested, 70 resisted the action of 1–500,000 Merthiolate, 1–2,500 phenol, 1–5,000 basic fuchsin, 1–50,000 hexylresorcinol and 1.0% sodium carbonate for 1 hour. In contrast, only 1 out of 16 smooth streptococci was resistant to these agents. When compared with *Escherichia coli*, *Aerobacter aerogenes*, staphylococci and streptococci, enterococci were the most resistant to sodium carbonate, sodium bicarbonate and sodium chloride. Enterococci usually did not kill rabbits when 5.0 cc. of their live brain-heart infusion cultures were injected intravenously, but smooth streptococci that were resistant to injurious agents usually killed rabbits under similar conditions.—G. H. CHAPMAN. *J. Bacteriol.* (July 1936), 41. (A. H. B.)

Essential Oils—Immediate and Lasting Antiseptic Power of. Essential oils, endowed with a powerful and lasting germicidal power, are given the name abiotaxines. The bacteriological

tests were carried out by sowing cultures of staphylococcus on the surface of small pieces of wood impregnated by soaking in an equal quantity of the oil to be tested. The times of contact between the sowing and resowing were 15 minutes. The experiment was repeated every day in order to determine precisely when the antiseptic power began to weaken. The figures in days were found for the following oils: thyme, 28; lemon, 20; camphor, 20; wild thyme, 18; lavender, 15; mustard, 11; cedar, 8; and volatile oil of pine, 4. The power of the following mixtures lasted over 4 years; thyme and terpineol, thyme and oil of pine, thyme and cinnamon, thyme and benzoin. The power of a compound of oil of thyme and camphor lasted over seven months. The addition of several oils also considerably augments the immediate antiseptic power in the vapor state as shown by the ability of a mixture of thymol and terpineol to cause a disappearance of all the colonies of prodigiosus from the air in 72 minutes, a mixture of oil of bitter almond and cinnamon in 30 minutes while a mixture of all four only required 13 minutes.—JACQUES RISLER. *Compt. rend.*, 203 (1936), 517. (G. W. H.)

Tetanus Toxin—Neutralizing Action in Vitro of Carbon Disulfide on. Variable quantities of freshly distilled carbon disulfide added to tetanus toxin cause a remarkable and rapid depression of the toxic property. Tetanus toxin placed in contact with a saturated solution of carbon disulfide is inactivated after sufficient delay at ordinary temperatures or more rapidly at 38°. The toxin inactivated by this method is not destroyed, its immunizing action is conserved. Injected into guinea pigs, it produces a strong immunity against tetanus. Diphtheria toxin, however, is not neutralized by this method.—LEON VELLUZ. *Compt. rend.*, 203 (1936), 471. (G. W. H.)

Tetanus Toxin—Neutralizing Action in Vitro of Isothiocyanates on. Tetanus toxin placed in contact with saturated aqueous solutions of allyl or phenyl isothiocyanate at 38°, is rendered non-toxic in 48 hours in a manner analogous to that already reported with carbon disulfide (see abstract above). Just as with carbon disulfide, the toxin thus treated keeps a remarkable antigenic power. It is believed that the toxin is rendered inactive by a chemical reaction, that is, blocking of certain amine groups and formation of the corresponding sulfuretted ureas.—LEON VELLUZ. *Compt. rend.*, 203 (1936), 498. (G. W. H.)

Toxins and Toxoids—Concentration and Purification of, by Ultrafiltration. Quigley's method of ultrafiltration was used. Diphtheria toxin was concentrated and purified so that from 3450 Lf per Gm. nitrogen the toxic power rose to 12,000 Lf; when water was added repeatedly, the concentration went up to 45,000 Lf per Gm. nitrogen; chlorides, on the contrary, decreased in this last case from 582 mg. p.c. to 28 mg. p.c. Diphtheria toxoid was also purified by ultrafiltration, but the result was not better than that obtained by iso-electric precipitation; at p_H 3.2 the ultrafiltrated and the primitive toxoid contained 2.5γ nitrogen per Lf. Tetanus toxin was purified ten times by ultrafiltration, but a loss of 30% occurred.—F. MODERNA and G. RUFF. *Rev. Soc. argent. Biol.*, 12 (1936), 70; through *Physiol. Abstr.*, 21 (1936), 487. (E. V. S.)

BOTANY

Calabrian Mint Oil. Experimental cultivation of *Mentha viridis* var. *sativa* has been done at the Royal Experimental Station at Reggio Calabria. It was observed that the plant grew most rapidly during the first few months after planting, but suffered from the heat in summer and was choked by the crop of weeds which sprang up after every irrigation of the plot. It is suggested that the plant, therefore, should be cultivated as an annual. Distillation of the entire plant, suitably comminuted, was effected in an ordinary steam still, and the characters of the essential oils from the two cuttings are given. The oil was straw-colored, and on keeping became darker in color and thicker.—ANON. *Pharm. J.*, 137 (1936), 153. (W. B. B.)

Ergot Preparation and Process of Obtaining. A drug useful for the manufacture of ergot preparations is obtained by inoculating a cereal culture medium containing abundant moisture supply with a culture of *Claviceps purpurea*, maintaining the culture at 20° to 28° C. for at least 3 to 4 weeks, drying the medium and comminuting it to obtain particles suitable for extraction.—ADELIA MCCREA, assignor to PARKE, DAVIS AND CO. U. S. pat. 2,056,360, Oct. 6, 1936. (A. P.-C.)

CHEMISTRY

GENERAL AND PHYSICAL

Quantum Theory—Significance of the New, for Chemistry.—E. HUCKEL. *Pharm. Monatsh.*, 17 (1936), 174. (H. M. B.)

INORGANIC

Manganese Dioxide—Transitory Form of, as Catalyst in the Dry Decomposition of Potassium Chlorate. A comprehensive discussion of the subject is presented. The following equations are suggested as representing the reactions involved:

$$9MnO_2 + 2KClO_3 = 3[Mn(MnO_4)_2] + 2KCl$$
$$3[Mn(MnO_4)_2] = 9MnO_2 + 3O_2$$

—GEORGES DENIGES. *Bull. soc. pharm. Bordeaux*, 74 (1936), 93–112. (S. W. G.)

ORGANIC

Alkaloids

Biscoclaurine (Bisbenzylisoquinoline) Alkaloids—Stereochemistry and Biogenetics of. XLV. Alkaloids of Species of Sinomenium and Cocculus. Eighteen pages with illustrations of stereochemical models.—H. KONDO and M. TOMITA. *Arch. Pharm.*, 274 (1936), 65. (L. L. M.)

Ergot—New Alkaloid and Acid Salt from, and an Acid Derived from the Salt. A new alkaloid, $C_{19}H_{19}O_4N$, m. p. 132–132.5° C., having phenolic properties and not giving the characteristic color reaction of the known ergot alkaloids, has been obtained. Ergomonamine has been suggested as a suitable name. The isolation from ergot of an acid potassium salt containing nitrogen has been described and a few of its properties indicated. No definite evidence concerning the function of the nitrogen has been obtained. From the acid potassium salt, an acid, which does not contain the nitrogen of the original salt, has been prepared. Evidence that this acid is a trihydroxy derivative of citric acid has been presented, and citergic acid has been proposed as a suitable name.—G. W. HOLDEN and G. R. DIVER. *Quart. J. Pharm. Pharmacol.*, 9 (1936), 230–234. (S. W. G.)

Morphine—Ethers and Hetero-ethers of, and Its Isomers. Twenty-one new ethers of morphine, of α-, β- and γ-isomorphines, and of their dihydro derivatives have been prepared and their physical constants described. This series includes both phenolic and alcoholic ethers. The methoxymethyl and benzyl ethers represent interesting types in which the phenolic hydroxyl is covered with groups easily removed by hydrolytic processes and which may liberate the phenolic base at the site of hydrolysis in the body. No pharmacological data are reported.—B. F. FARIS and L. SMALL. *J. Org. Chem.*, 1 (1936), 194; through *Scientific Abstr.*, 7 (1936), 124. (E. V. S.)

Quinine—New Salts of, from Camphosulfonic Acid. The neutral camphosulfonate of quinine was prepared as follows: 32.40 Gm. of quinine dissolved in sufficient alcohol at 95° were treated with 46.4 Gm. of camphosulfonic acid dissolved in a small quantity of water. The solution was filtered and placed in a desiccator over sulfuric acid. By evaporation was obtained a syrupy liquid from which minute needle-shaped crystals were gathered daily on a filter, washed with ether and dried in air. The product was purified by recrystallizing in hot alcohol. The basic camphosulfonate of quinine is prepared in manner similar to the neutral salt, neutralizing the quinine base (32.40 Gm.) dissolved in a little alcohol, with an aqueous solution of camphosulfonic acid (32.2 Gm.). The method of determining the molecular weights is given. The neutral camphosulfonate $C_{20}H_{24}N_2O_2(C_{10}H_{15}OSO_3H)_2.H_2O$ contains 40.19% of quinine base and the basic camphosulfonate $C_{20}H_{24}N_2O_2.C_{10}H_{15}OSO_3H.H_2O$, 56.44% of quinine. The salts are solids, crystalline with the point of fusion determined; the neutral salt is easily soluble in water with acid reaction to heliotrope, the basic salt slightly soluble with neutral reaction. The basic salt introduced orally is absorbed more slowly and more slowly eliminated compared to the neutral salt. The aqueous solutions of these salts are well tolerated.—LUIGI NOBILI. *Giorn. farm. chim.*, 84 (1935), 232. (A. C. DeD.)

Essential Oils and Related Products

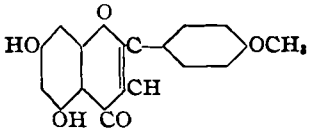
Azulenes—Chemistry of. The authors deny the correctness of previously proposed formulas. They consider that the eucazulene from the sesquiterpenes of *Eucalyptus globulus* (principally aromadendrene) is identical with the azulene obtained from α-gurjunene, oil of *Geranium macrors-hizum*, patchouli oil and vertibert oil. The identification of the azulenes is best

effected by trinitrobenzene or trinitrotoluene. The hydrocarbons can be liberated from these compounds by ammonium sulfide and alcohol, followed by steam distillation. It is possible that a fuller understanding of the chemistry of the azulenes may result in more useful specific color reactions for various essential oils.—PFAU and PLATTNER. *Helv. Chem. Acta*, 19 (1936), 858; through *Chem. and Drug.*, 125 (1936), 421. (E. V. S.)

Glycosides, Ferments and Carbohydrates

Emulsin—Influence of the Aglucone on the Rate of Hydrolysis of β-Glucosides by. The rate of hydrolysis by emulsin was determined for the following β-alkyl glucosides: methyl, ethyl, propyl, isopropyl, *n*-butyl, trimethylcarbinol and *d*-methyl-butyl-carbinol. With the normal alkyls, the rate of hydrolysis is directly proportional to the increase in molecular weight. The molecular arrangement has an important influence for the *n*-propyl is hydrolyzed much more rapidly than the isopropyl. This difference is even more pronounced with the two butyl isomers.—STIG VIEBEL and FRANCISKA ERIKSEN. *Compt. rend.*, 203 (1936), 390. (G. W. H.)

Linarin and Pectolinarin—Constitution of. *Glycosides of the Flowers of Linaria vulgaris L.* In view of molecular weight and cleavage products of linarin, the authors assign to it the formula $C_{28}H_{32}O_{14}$, despite Klobb's two formulas $C_{14}H_{16}O_7$ and $C_{50}H_{60}O_{25}$. Hydrolysis of this glucoside yields glucose, rhamnose, and linarigenin ($C_{16}H_{12}O_5$). The latter crystallizes in pure form from acetone-water and from nitrobenzene in yellow needles, m. p., 262° C. It is slightly soluble in alcohol and ether, nearly insoluble in the usual organic solvents except acetone, nitrobenzene and pyridine. With ferric chloride it forms a green-black color and with phenyldiazonium chloride, a red dye. Of the five oxygen atoms, one is present as methoxyl, two as phenolic hydroxyl. Its constitutional formula is given as



Pectolinarin, $C_{29}H_{34}O_{15}$, obtained from the mother liquors of linarin exists in α- and β-modifications and yields a hepto-acetyl derivative the optical activity of which ($[\alpha]_D^{18} = -68.5°$) suggests a close relationship of its sugar components to that of linarin. Pectolinarigenin, $C_{15}H_8O_4(OCH_3)_2$, crystallizes from acetone and melts at 215–216° C. The constitution proposed by Schmid and Rumpel (*Mh. Chem.*, 57 (1931), 421 and 60 (1932), 8) is said to be correct.—K. W. MERZ and Y. H. WU. *Arch. Pharm.*, 274 (1936), 131. (L. L. M.)

Madder—Glycosides of. The glycoside obtained from various species of Galium and Rubia has been found to be primveroside of purpurin carboxylic acid. The sugar of ruberythric acid, the glycoside of alizarin, has been isolated in the pure crystalline condition from the products of enzymic hydrolysis and identified as primverose. A primverose of rubiadin has also been obtained from the roots of *Galium verum*. The three glycosides are rapidly hydrolyzed by enzymes present in members of the Primulaceæ. They would appear to be the first examples known of primverosides occurring in the Rubiaceæ.—R. HILL and D. RICHTER. *Nature*, 138 (1936), 38; through *Pharm. J.*, 137 (1936), 102. (W. B. B.)

Sugar Series—3-Keto-acids of, and Their Anhydrides. Lactones of 3-keto-acids of the sugar series are prepared by treating ozones possessing the same steric configuration as, but one carbon atom less than, the desired 3-keto-acid-lactone with hydrocyanic acid, and saponifying the products thus obtained.—TADEUS REICHSTEIN, assignor to HOFFMANN-LAROCHE, INC. U. S. pat. 2,056,126, Sept. 29, 1936. (A. P.-C.)

Other Plant Principles

Periploca Græca—Odorous Principle of. Two kilograms of the previously dried and powdered bark of *Periploca græca* were steam-distilled under reduced pressure (60–65° C.) until 10 liters of distillate was obtained. The aqueous distillate was saturated with sodium chloride and extracted with petroleum benzin. By concentration and cooling of the benzin solution 4 Gm. of long colorless transparent crystals having a strong coumarin-like odor were obtained. The substance was recrystallized several times from benzin until the melting point became constant

(41–42° C.). The principle was soluble in various organic solvents but insoluble in water. By means of various reactions, carbon and hydrogen determinations, molecular weight determinations and preparation of various derivatives (phenylhydrazine, hydroxylamine, semicarbazide, aniline), the crystals were identified as 2-hydroxy-4-methoxybenzaldehyde. The literature of similar principles is also reviewed.—T. SOLACOLU, A. MAVRODIN and G. HERRMANN. *J. pharm. chim.*, 22 (1935), 548. (G. E. C.)

Viburnitol—Crystalline Principle from the Leaves of Viburnum Tinus. By extraction of the leaves of *Viburnum Tinus* with boiling water, hydrolysis and purification of the extract, a crystalline principle, $C_6H_{12}O_6.H_2O$, was obtained in long colorless needles. The anhydrous substance melts at 180–181°; is very soluble in water, somewhat soluble in hot but slightly soluble in cold alcohol; does not give any color reactions with ferric chloride, nitric, hydrochloric and sulfuric acids, bromine water or caustic soda. Its aqueous solution does not reduce alkaline copper solution. It does not contain a methoxy radical, but appears to resemble a cyclic polyalcohol.—HENRI HERISSEY and GABRIEL POIROT. *Compt. rend.*, 203 (1936), 466. (G. W. H.)

Unclassified

Adrenaline and Ephedrine—Halogen Analogues of. III. Derivatives of Propiophenone. The preparation and properties of the following compounds are given: Chlorohydroxyacetophenone, bromohydroxyacetophenone, chlorohydroxypropiophenone, 4-chloroacetophenone, 4-bromoacetophenone, 3-chloroacetophenone, 3-bromoacetophenone, 4-chloropropiophenone, 4-bromopropiophenone, acetophenone, propiophenone. The pharmacological activity and the influences of the various groups and halogens on the pharmacological activity are discussed.—ROBERT P. EDKINS and WILFRED H. LINNELL. *Quart. J. Pharm. Pharmacol.*, 9 (1936), 201–229. (S. W. G.)

Aldehydes and Amines—Condensation of. In condensing aromatic aldehydes and amines in acid medium, some colored stable compound was obtained. The reaction is hastened through the use of acids. Outside of hydrochloric acid, any other mineral acid can be used. Compounds were obtained from the respective acids, which were either yellow or brown in color; all contained only one molecule of aldehyde or amine, and one molecule of acid in case the condensation product showed the action of amine-N. The stability of the compounds so formed, depend on the nature of the acid and aldehyde. The arsanil products are stable in the air and are insoluble in most of the organic solvents. The production of these condensation products is done in either water or alcoholic solutions; the amine solution is replaced by an excess of acid, mixed with the aldehyde and vigorously shaken; the compound separates out in crystalline flakes. In purifying the compound, it can be recrystallized from the corresponding diluted acid solution.—R. GARZULY-JANKE. *Chem. Zentralb.*, 107 (1936), 324. (G. B.)

β-Alkylated Choline Alkyl Ethers—Salts of. Various details and examples are given relating to the production of ethers and their bromides and chlorides; *e. g.*, in making β-methylcholine bromide ethyl ether, methyl β-bromoethyl ether is treated with trimethylamine in benzene for about 12 hrs. at 100° to 125° C.—RANDOLPH T. MAJOR and JOSEPH K. CLINE, assignors to MERCK AND CO. U. S. pat. 2,049,463, Aug. 4, 1936. (A. P.-C.)

Ammonium Acetylsalicylate. Ammonium acetylsalicylate is made by reaction of ammonia gas with acetylsalicylic acid in anhydrous ether. It may be used for therapeutic purposes.—PINCUS ROTHBERG and LEO A. FLEXSER, assignors to MONTROSE CHEMICAL CO. U. S. pat. 2,052,663, Sept. 1, 1936. (A. P.-C.)

Amœbicidal Tetra-alkylated Amines. A tetra-alkyldiamino derivative of the paraffin series, possessing high amœbicidal efficiency, is produced by reacting a dihalide of a hydrocarbon of the paraffin series containing 8 to 12 carbon atoms with a dialkylamine in which each of the two alkyl radicals is one of the group consisting of butyl and amyl.—FRANK L. PYMAN and HYMAN H. L. LEVENE, assignors to BOOTS PURE DRUG CO., LTD. U. S. pat. 2,056,867, Oct. 6, 1936. (A. P.-C.)

Aromatic Mercury Compounds—Basic Bismuth Salts of. Therapeutic compounds of relatively low toxicity are obtained by reaction of a bismuth salt such as the nitrate with a soluble salt of a mercury compound of the aromatic series substituted by one side chain or a heterocyclic nucleus and containing at least one acid group, the mercury being bound to a side chain or to the heterocyclic nucleus. Products are obtained which are suitable for the treatment of syphilis.—

KARL STREITWOLF, ALFRED FEHRLE, PAUL FRITZSCHE and WALTER HERRMANN, assignors to WINTHROP CHEMICAL CO. U. S. pat. 2,050,592, Aug. 11, 1936. (A. P.-C.)

Arylarseno Arsenides. Numerous examples are given of the production of therapeutic compounds by reactions such as that of a primary aminoaryl arsine of the benzene series with arsenious oxide, alkali metal salts of arsenious acid, or an arsenic trihalide in the presence of a solvent, the reaction conditions being acid to alkaline, and reacting upon the amino arylarseno arsenide formed with formaldehyde-bisulfite or formaldehydesulfoxylate, and causing a soluble metal salt of a therapeutically active metal such as gold, silver, copper, tin, lead, zinc, bismuth, antimony, vanadium or chromium, to react upon the arylarseno-arsenic compound formed. General claim is made, as being new products, to 3-(formaldehyde-bisulfite- or -sulfoxylate-amino)-4-hydroxyphenylarseno arsenides and other arylarseno arsenides of the general formula $(ArAs)_mAs_n$, in which Ar stands for a radical of the benzene series, m and n signify whole numbers, in which the arsenic atoms of the arylarseno radicals are connected to each other through further arsenic atoms, which compounds are yellowish to brown powders and, as derivatives formed by salt formation of groups substituting the radical of the benzene series, are soluble in water and useful in therapy.—HANS SCHMIDT, assignor to WINTHROP CHEMICAL CO. U. S. pat. 2,052,670, Sept. 1, 1936. (A. P.-C.)

Hydroaromatic Endomethylene Benzoic Acids—Organic Bismuth Compounds of. Bismuth salts having the formula R.COOH, in which R stands for a hydroaromatic hydrocarbon radical of the endomethylene-benzene series, have a strong bactericidal action, especially against spirilli. These salts are amorphous, insoluble in water, soluble in ether, chloroform and oils, and decompose without melting when heated.—MAX BOCKMÜHL and GUSTAV EHRHART, assignors to WINTHROP CHEMICAL CO. U. S. pat. 2,058,403, Oct. 27, 1936. (A. P.-C.)

***N*-Hydroxypropylarsanilic Acid—Therapeutic Compounds of.** Water-soluble benzene-arsenic acids are obtained by causing ethylene oxide, epihydrin alcohol or homologues or derivatives thereof, to act upon benzene arsonic acids and their salts containing one or several amino groups. On starting from the alkali salts of the arsonic acids, the corresponding alkali salts are obtained as reaction products. The free acids can be prepared from them. Thus compounds which are readily soluble in water are obtained which contain as substituent the radical of the ethylene oxide or its homologues. These compounds are readily soluble and well tolerated and are suitable for the treatment of diseases caused by trypanosomes, recurrent spirochete and bacteria-producing syphilis.—WILHELM KOLLE, JULIUS HALLENSLEBEN, KARL STREITWOLF and HUGO BAUER, assignors to WINTHROP CHEMICAL CO. U. S. pat. 2,050,574, Aug. 11, 1936. (A. P.-C.)

Mercury Benzotrifluoride Compounds. Details are given of the preparation of antiseptic and therapeutic compounds of the general formula $Y_m(XHg)_nRCF_3$, in which R is a benzene nucleus or a substituted benzene nucleus, X is an acid substituent, such as a halogen or an acetoxy, hydroxy or anhydro-hydroxy group, Y is a nitro, hydroxy or carboxy group, m is 1 or 2, and n is 1 or 2. If n is 2, the Y's may be the same or different groups.—ERNEST H. VOLWILLER and ELMER B. VLIET, assignors to ABBOTT LABORATORIES. U. S. pat. 2,050,075, Aug. 4, 1936. (A. P.-C.)